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" FLIGHT " PHOTOGRAPHS.

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list :—

1927

- Sept. 19-24 Air Races, Spokane, U.S.A.
- Sept. 24 Newcastle-upon-Tyne Aero Club Flying Meeting.
- Sept. 24 Merseyside Air Pageant, Hooton Park, Lincs.
- Sept. 25 Schneider Trophy Race at Venice.
- Sept. 30 Entries Close for Edward Busk Memorial Prize (R.Ae.S.)
- Oct. 20 Aero Golfing Soc. (Cellon Cup), Walton Heath.
- Dec. 31 Entries Close for R. 38 Memorial Prize (R.Ae.S.)

1929

- Oct. 31 Guggenheim Safe - Aircraft Competition Closes

EDITORIAL COMMENT.



LAST week we commented on the comparative futility of trans-oceanic flights carried out in land aeroplanes. Since that time the press of the world has permitted itself to be stampeded into a regular " scare " on this question, and in several countries it would appear that the governments have taken, or are about to take steps to secure legal authorisation for prohibiting such flights from being started. As we pointed out last week, we are not prepared to go so far as to ask for legislative restrictions, and we do feel that this should be unnecessary, in this country at any rate. If the pilots are appealed to in the matter, we do not think that there would be very many instances where such an appeal would be made in vain.

It is a good old British custom that a man is entitled—outside actual suicide—to risk his neck in any manner he thinks fit, and already in aviation that liberty has been restricted quite sufficiently in Great Britain by the rules which prescribe that no man may take an aeroplane built by himself more than 3 miles away from a recognised aerodrome, nor may he carry even within the limits of such an aerodrome any person " for hire or reward " unless his machine has received the official airworthiness certificate. These rules are considered sufficient to safeguard the community, and we have personally no desire whatever to see them extended to long-distance aircraft. Air Ministry officials have been reported in various quarters as having stated that no machinery exists by which these trans-oceanic flights can be legally prevented from starting. Of the correctness of this we are not at all convinced. It should be remembered that every machine which has ever started for a flight of such duration has been grossly overloaded, and it would seem that were it desired to prevent the start of such flights, the Air Ministry department concerned could very easily refuse to grant a certificate of airworthiness. Without this no machine could start from this country. If, therefore, the Air Ministry wishes it to be believed that there exists no legal machinery for stopping such flights, we would

rather give the Air Ministry credit for not wishing to use its powers in this direction, and with that view we must confess we are in sympathy. As we have said, civil aviation is already hedged around with a sufficiency of restrictions. Do not let us have any more.

But we do believe sufficiently in the sportsmanship of British pilots to think that if the matter is put to them in the right way, they will honourably forego any chance of personal glorification if the latter should involve sacrifice on the part of someone else.

And that is precisely what these flights do involve. We are not now referring to passengers carried on board the machines during these flights. After all they presumably go as passengers with their eyes open and in full realisation of the risks they run. What we are referring to is the question of sending vessels hundreds of miles out of their way in order to attempt to render assistance, no matter how scant the possibility may be of such assistance being in time to be of any use. By these hazardous flights in landplanes pilots are, probably without quite realising it, imposing upon shipping companies the onus of rendering assistance in case of trouble, and the past history of long trans-oceanic flights has shown that in a very small percentage only is such assistance, costly though it is, of any real service. No seaman in the world would dream for one moment of closing his ears to a call for help on the high seas, but it is rather onerous to place him in a position of having to choose between his duty to humanity and his obligation to his owners, although we do not believe that the case would ever arise in which the voice of humanity would not call more strongly than that of any financial considerations. Then one also has to consider that it is not only the shipping companies that have to be considered. It is conceivable that on board each liner thus deflected from its course there may be several passengers who have made most careful arrangements, important appointments and what not, and to whom therefore a delay of 12 or perhaps 24 hours may be of vital importance. So that the effects of one single forced descent on the sea of one of these machines may have very far-reaching consequences, much more so when, as of late, we have a perfect epidemic of them.

And it is not as if the cause of aviation were advanced by these flights. It definitely is not. It is even retarded. The science of flying is not enriched one iota by a successful flight of this sort. The opinion of the man in the street is antagonised by a failure. The whole thing is very much a case of "nothing to win and everything to lose," except in so far as those who undertake the flights stand to gain possibly a substantial reward, either directly or indirectly. Pilots have been lost who can ill be spared, and the world at large has gained nothing by their sacrifice.

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A Magnificent Flight

Although it involved the crossing of the Atlantic, and thus comes under the heading of trans-oceanic flights on landplanes, with which, now that the feat has been accomplished several times, we are no longer in sympathy, we cannot withhold our admiration for the splendid flight accomplished by the American aviators, Brock and Schlee, who have flown from America to Japan, across the Atlantic and Europe, Asia and China with the same little Wright

"Whirlwind" engine. Starting from America on August 27, they reached Omura in Japan, on September 11.

For sheer endurance on the part of the crew, and reliability of engine and machine, this flight stands out in the history of flying. Our admiration must go unstintingly to them. But we sincerely hope that the two gallant aviators will rest content with that, and not attempt the crossing of the North Pacific. Their machine and their engine have already shown the most praiseworthy qualities, as have also the members of the crew. Let it go at that. Making the Pacific flight can add nothing useful to what has already been accomplished.

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Something Worth While

If pilots are looking for something equally difficult, or perhaps it would be more to the point of saying, if those who offer prizes for long flights are really desirous of fostering practical aviation, something much more worth while would be to arrange a flight, by stages, between England and Australia, for instance. Thus, if a prize were offered for carrying a mail bag with a certain specified number of letters or pounds of mail, from London to one of the Australian towns in a minimum of time, a really useful purpose would be served. Arranging relays of machines and pilots, flying night and day, using landplanes for the overland portions of the route and seaplanes for the trans-oceanic sections, a mail bag might be got to Australia in very little more than a week. We venture to suggest that the cause of aviation would be much better served by such a feat than by a hundred crossings of the Atlantic by landplanes. If the ten machines or more which have been involved in the transatlantic and transpacific flights had been so employed, the thing could have been done, and although he would have had to share the honours with a number of fellow pilots, each pilot would have accomplished something worth much more, and aviation, instead of a serious blow, would have obtained a lift-up of immense value. And, after all, why should there be more glory in merely repeating what another has already done than in being one of several to accomplish something for one common object, and that object worthy of the effort.

We have, of course, not the slightest hope that such a suggestion will be acted upon, but it does, we think, serve to show up the futility of machine after machine, pilot after pilot, attempting to emulate what another has already accomplished. Alcock and Brown were the first to fly across the Atlantic, Newfoundland to Ireland, non-stop. Lindbergh went one better by going from New York to Paris, and by doing it single-handed. Chamberlin and Levine extended the distance to Kotbus in Germany. If the distance is to be increased, the route in the future may just as well lie entirely over land. Personally, we fail entirely to see the point in anyone else doing it in a landplane. All honour to those pioneers who were the first to do it. Their names will live for ever. But the world at large will have very little sympathy for those who, even if they succeed, have merely repeated what is already proved to be possible.

If British pilots are still anxious to make individual efforts, why not set their faces towards the East. The Dominions are sufficiently far away to offer scope for long-distance flights.

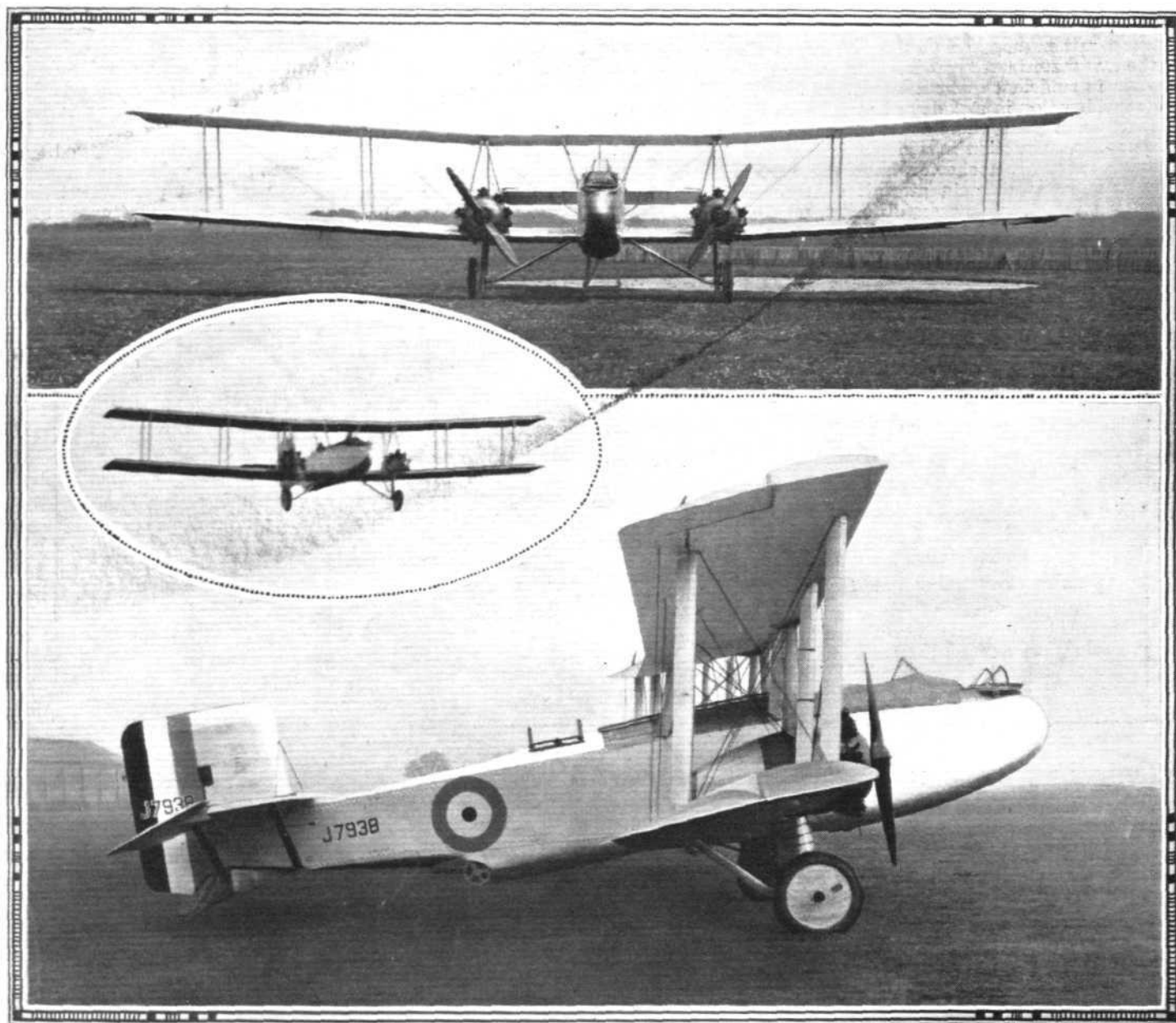
THE BOULTON & PAUL "SIDESTRAND"

Two Bristol "Jupiter" Engines

AMONG the new types of machines which took part in the "Parade" at the last Royal Air Force Pageant at Hendon was the Boulton & Paul "Sidestrand," a day-bomber fitted with two Bristol "Jupiter" engines. This machine, like all Boulton & Paul productions of recent years, is of all-metal construction, and retains the typical features of the long list of Boulton & Paul twin-engined machines which commenced

succeeded in evolving a combination of fuselage and engine nacelles, the drag of which is very low, and the effect is noticeable in the performance of the machine, particularly on take-off, climb and ceiling.

Unfortunately, although a number of "Sidestrands" are being built for the Air Ministry, it is not permissible to publish performance figures, nor a number of other details



THE BOULTON & PAUL "SIDESTRAND": Designed for day bombing and similar duties, this all-metal machine is fitted with two Bristol "Jupiter" engines. The clean lines of the fuselage and engine nacelles should be noted. The gun position in the floor of the fuselage allows of firing under the tail.

with the "Bourges." Needless to say, however, the "Sidestrand" incorporates a number of new features, chief among which is, perhaps, the good aerodynamic form of the fuselage and engine nacelles, or rather the good *combined* forms of the two, "interference effect" having very successfully been reduced in this machine. It is becoming increasingly clear that the combined drag of two bodies placed close together is likely to be different from, and usually larger than, the sum of the two drags obtained separately. By systematic research, in their wind tunnel and full scale, Boulton & Paul have

which would have been found of considerable interest. Permission has, however, been obtained to give the following characteristics of the machine:

Engines, two Bristol "Jupiters" Series VI; wing span, 72 ft. (21.95 m.); wing chord, 7 ft. (2.135 m.); wing area, 965 sq. ft. (82 sq. m.); length overall, 41 ft. (12.5 m.); height, 14 ft. 10 in. (4.54 m.). Weight empty, 5,275 lb. (2,400 kg.); weight loaded, 8,850 lb. (4,020 kg.); wing loading, 9.17 lb./sq. ft. (45 kg./sq. m.). Power loading, on 1,000 h.p., 8.85 lb. per h.p. (4.02 kg./h.p.).

METAL AIRCRAFT CONSTRUCTION AT VICKERS

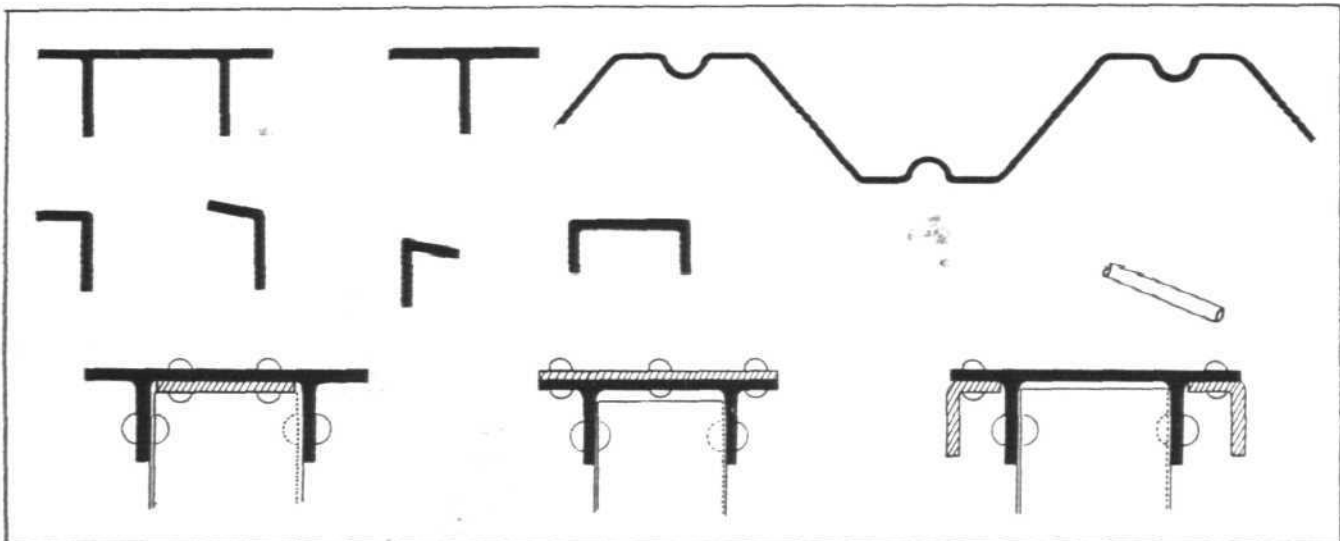
Some Interesting New Forms Developed

EVER since the Air Ministry fiat went forth, that after the next two years no aircraft of wood construction would be accepted, British constructors have been hard at work evolving forms of metal construction that would meet the new requirements. In consequence quite a number of different types of construction have come into being, some using steel and others using Duralumin as their material. The problem of which of the two is likely to be the more suitable for British needs has by no means been settled yet, and it now seems likely that in the future there will be room for both. In his very interesting series of articles on Duralumin, which appeared in *The Aircraft Engineer*, and is now published in book form, Dr. Leslie Aitchison rather disposed of the old bogey that in time of war the raw material for making Duralumin would be difficult to obtain in sufficient quantities, and as that is probably the main consideration in a policy of metal aircraft construction, it would seem that there is every reason for developing methods of construction in which this material is employed. Short Brothers of Rochester have for several years been working on all-Duralumin aircraft construction, and have produced some highly successful forms, most of which have, from time to time, been illustrated in *FLIGHT*. Vickers, Ltd.

for the same strength, or conversely, for the same weight, the Duralumin structure is a great deal stronger, so that efficiency has by no means been sacrificed on the altar of simplicity.

As far as the wing construction is concerned, the basis of the Vickers system is the novel form of spar web. Mr. Sutherland of Vickers terms this, rather aptly, a "wandering web," from the fact that the web, made from a single strip of the metal, meanders along from front face to rear face and back to front face of the spar. In order to give the necessary rigidity, vertical flutings are stamped in the web in places where it meets the front and rear faces, the fluting forming a sort of short strut, which prevents the secondary buckling of the sheet under compression loads.

The "wandering web," it will be seen, forms alternately the spar front wall, the diaphragm or bulkhead, and the spar rear wall, the diaphragm being diagonal instead of, as is more usual, at right angles to the spar walls. By arranging the web in this manner, a very great deal of work is saved. To begin with, there are no separate diaphragms to stamp out, which saves one operation at least, and probably two or more. Then, from the fact that the web is a continuous strip, there is far less riveting to be done than would be required



[“FLIGHT” Copyright Sketches]

VICKERS METAL CONSTRUCTION : Some standard sections used for spar flanges. The zig-zag line shows the formation of the "wandering web."

at their Weybridge works, have also been carrying out a long series of experiments, and have now evolved forms of Duralumin construction which, although entirely different from those of Short Brothers, are no less interesting in the manner in which the problems are attacked.

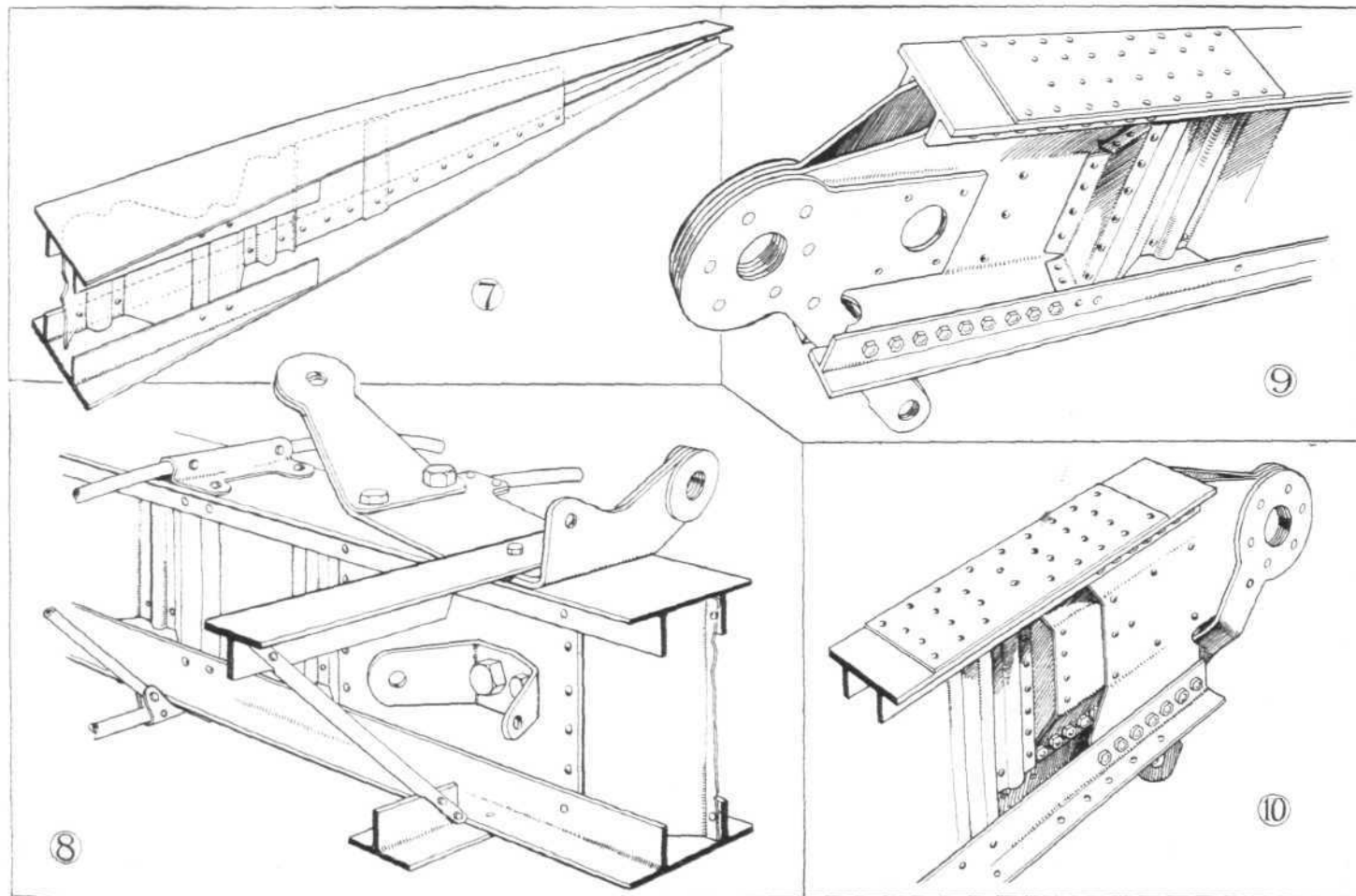
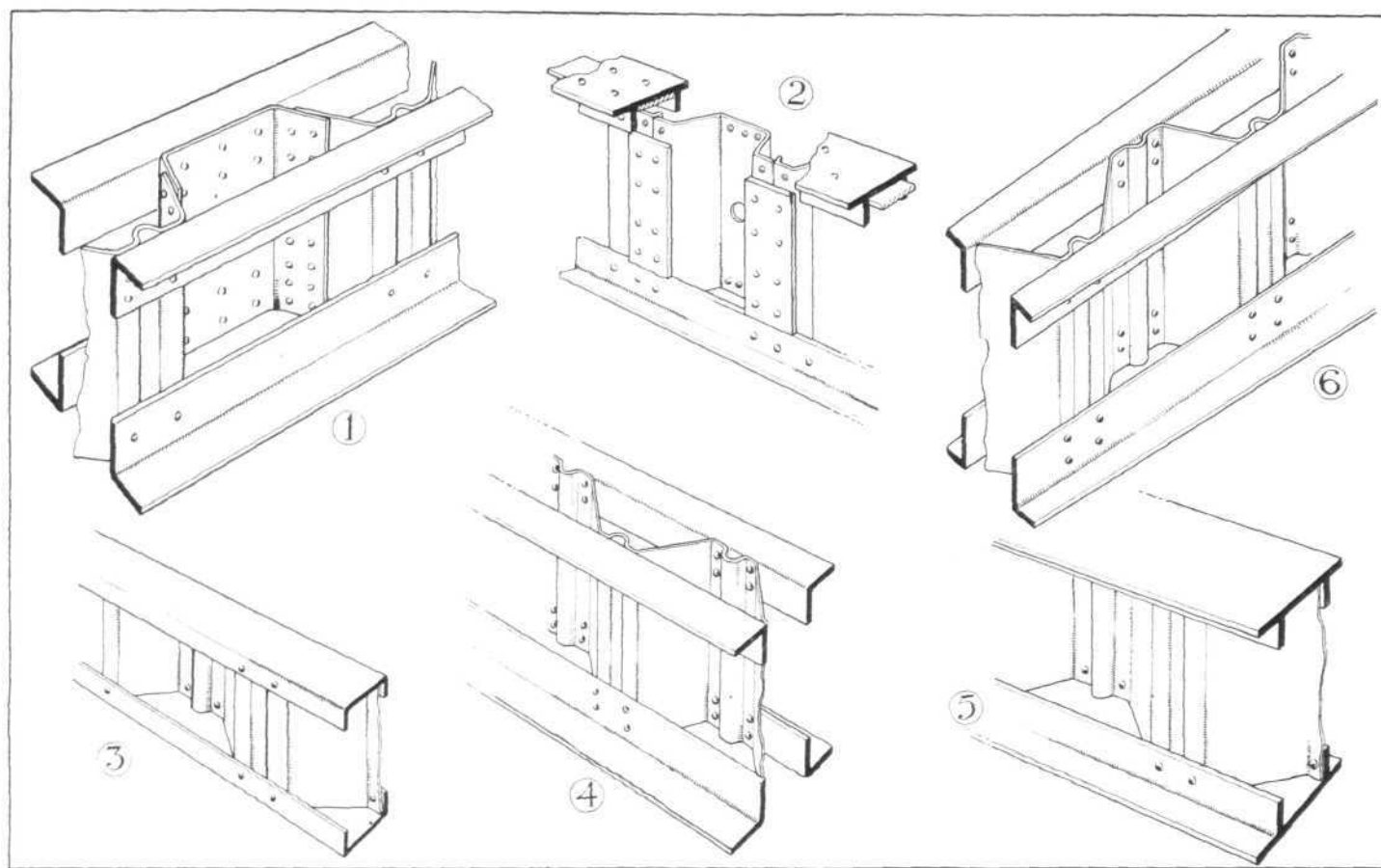
It is comparatively easy, with any form of metal construction, to design for maximum efficiency from the strength-weight point of view. But often it is found that sections which give a very high value of this ratio are difficult and costly to produce in the shops. On the other hand, it is very easy to design forms which are cheap to produce, but in nearly all cases it is found that such sections fail to develop anything like the full strength of the material. It is true that in time of war the actual cost in money is of secondary importance, but what is of the very greatest importance is the question of man-hours, and any form of metal construction which requires a disproportionate number of man-hours is practically doomed, no matter how excellent it may be in the matter of strength for weight.

In evolving the new forms of metal construction at Vickers' Weybridge works, these considerations have been kept prominently in mind, with the result that simplicity is the keynote of the design. In fact, it seems likely that in case of urgent demand, Vickers would be able to produce Duralumin aircraft parts at almost any rate required, and in the main by semi-skilled, or even unskilled labour. At the same time, the forms of construction evolved are such that the resulting structure is considerably lighter than the corresponding wood structure,

were the diaphragms separate pieces needing to be attached to walls and flanges.

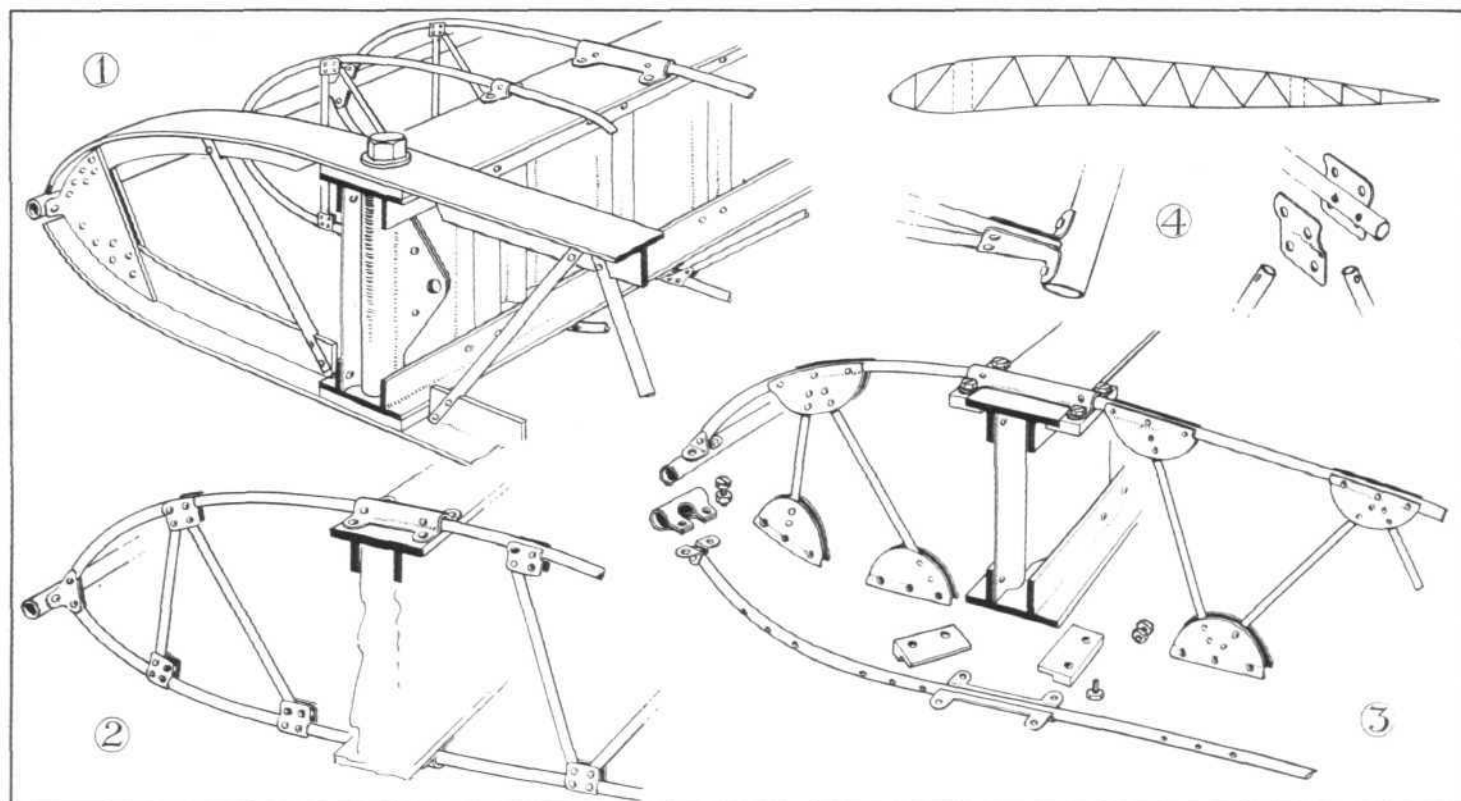
Special workshop tools have been designed for the manufacture of this "wandering web," and the operation of producing it has been reduced to one of extreme simplicity, a couple of men attending to the strip as step by step it moves through the machine. Since most of the secrets of quick metal construction relate to the machine tools used rather than to the form of the finished sections which they produce, we shall refrain from describing in detail the special stamping machine which Vickers use for the manufacture of their "wandering web." To watch it at work, however, strongly reminds one of the expression "turning them out like hot cakes."

Next in importance to the "wandering web" comes the spar flange, and here Vickers make use of three different types, each with its own advantages, according to the size of spar and the place in the machine where the spar is to be used. The three types are illustrated by some of our sketches, and it will be seen that they are simple L sections, simple channel sections, and double T sections. The manner in which the different sections are used is also illustrated by our sketches. One feature all three have in common, however: the ease with which all rivets can be got at. This is naturally an important item in the rapid and cheap production of the spars. One of our sets of sketches shows a very complicated Duralumin spar, which not only tapers in a vertical plane, but also in a horizontal. Although naturally less easy to



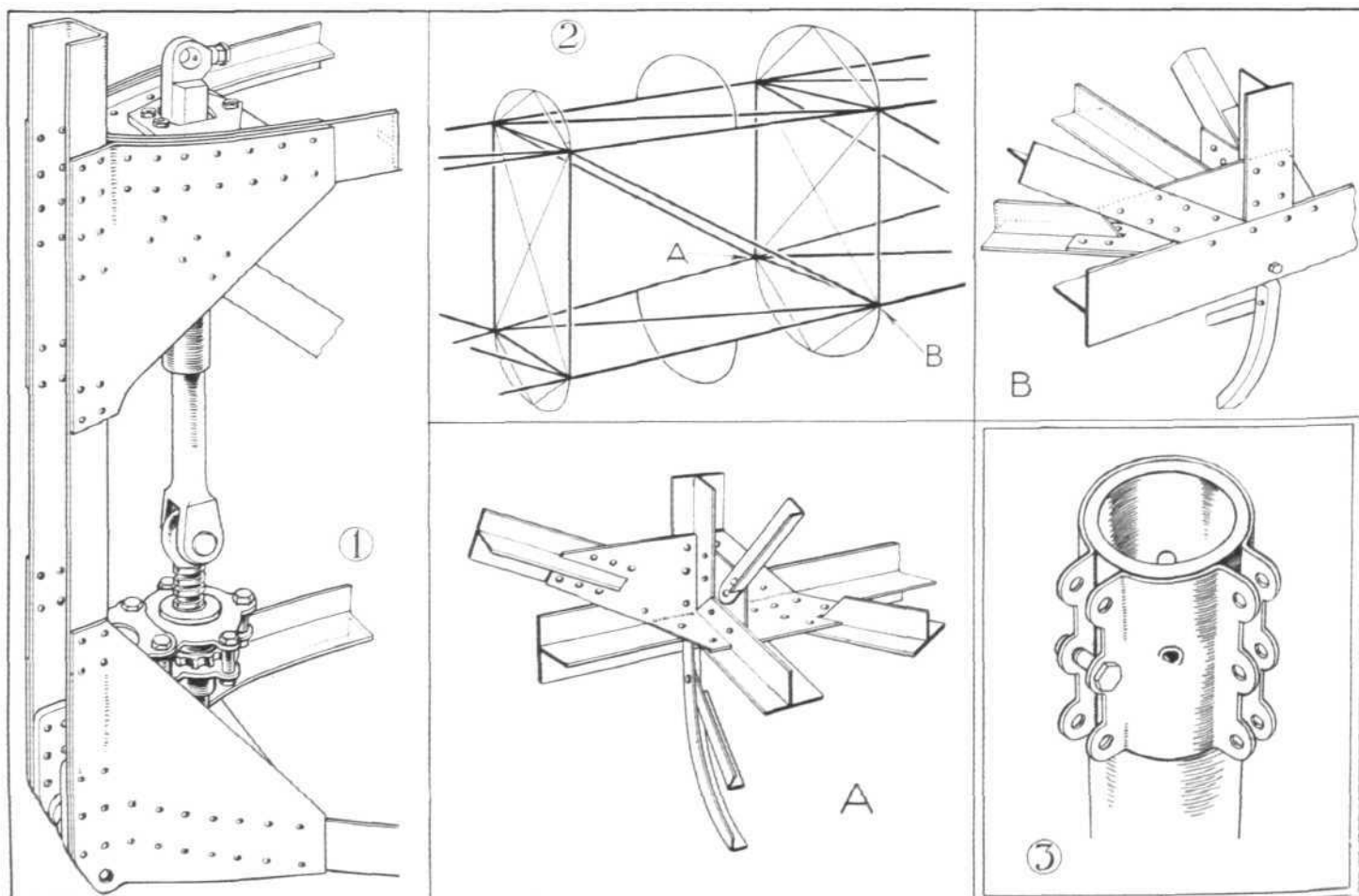
[" FLIGHT " Copyright Sketches

VICKERS METAL CONSTRUCTION : A splice in the "wandering web" is shown in (1), and special reinforcement for compression strut in (2). Various flange forms are illustrated in (3), (4), (5) and (6), all using the same "wandering web." The manner of tapering a spar end down is shown in (7). In (8) a typical wing strut fitting is shown, while (9) and (10) show end fittings for attachment to centre-section.



[" FLIGHT " Copyright Sketches.

VICKERS METAL CONSTRUCTION : Some rib details. (1) Shows an end rib and some nose ribs, while (2) shows a normal rib attached. The type of rib used for replacements is illustrated in (3). It will be noted that no riveting is required. The general lay-out of a rib is shown in (4), with details of brackets, etc.



[" FLIGHT " Copyright Sketches.

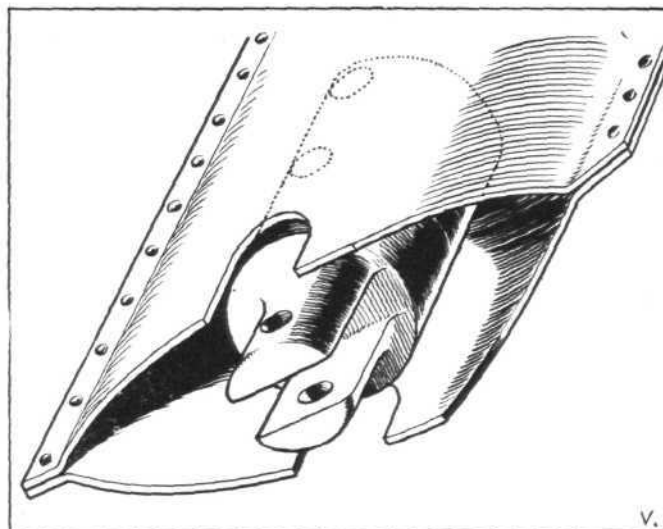
VICKERS METAL CONSTRUCTION : Details of fuselage members. (1) Shows the construction at the stern post. (2) Illustrates in diagram the arrangement of struts and longerons, with details at A and B. The sketch in (3) illustrates a fuselage fitting for use with tubular longerons.

make than a spar of plain rectangular section with no taper, this double-taper spar is not unduly difficult to make, and it will be seen that the "wandering web" is still used, although the parallel strip has to be tapered off after the web is in place. L section corners of relatively thick gauge are used in this spar. A feature of the new Vickers' spars is that standard sections are used almost exclusively, so that the work of shaping is done almost entirely by the makers of the material, the extruded double T section being one such example.

Ribs of Duralumin tubes are used with the Vickers' spars, the standard rib being riveted as shown in the sketches. To facilitate repairs, a slightly different form of rib, with removable bottom flange, has been standardised. This can be simply slipped over the spars and the bottom flange bolted in place, so that the user does not have to do any riveting when replacing a damaged rib.

The all-Duralumin construction evolved by Vickers also includes the inter-plane struts, which are made as shown in a sketch, of two sheets of Duralumin of thick gauge, externally riveted together at the edges. Again, there are no hidden rivet heads, and the operation is simplicity itself. The struts have been found to be remarkably stable under load, and to develop a high safe loading stress. Aerodynamically, being of streamline section, they are probably as efficient as struts without the small projecting front and rear edges.

The fuselage construction which accompanies the wing construction described above is on somewhat different lines, and may be said to be a development of the Wibault type of construction, Vickers having recently built under licence a number of machines of this type for a foreign government. Fundamentally, the fuselage construction makes use of



["FLIGHT" Copyright Sketch]

VICKERS METAL CONSTRUCTION: Inter-plane struts are made from sheet Duralumin, the strut being of streamline section as shown. The end fitting is a simple fork end.

T sections for longerons and struts, the joints between the two being as illustrated. The sketches are, we think, self-explanatory.

THE ATLANTIC FLIGHTS

The "Old Glory" Disappears

As with the "St. Raphael," mystery surrounds the fate of the crew of the Fokker monoplane, "Old Glory," which left Old Orchard, Maine, U.S.A., at 1.23 p.m. on September 6 for Rome and sent an urgent S.O.S. message by wireless at 9 a.m. the next day, September 7, from a position in the open Atlantic of approximately 600 miles east of Newfoundland. Until then its messages had been very optimistic, although the monoplane was reported by the crew to be heavy. During the evening after the start it passed over Nova Scotia and Newfoundland flying well, and it passed out into the Atlantic during the night. At 5 a.m. it was sighted 350 miles out by the steamer "California," steering east at 100 m.p.h. About 4 hours later several Atlantic liners picked up its S.O.S. message which indicated that a storm had been encountered and a descent in the sea was feared. From then until now the crew has been neither seen nor heard. The liners "Transylvania" and "Carmania" raced to the rescue, the former being only 80 miles away. The "Lapland," "California" and "Capulin" also joined in a wide search but all in vain. The wind was westerly and fresh and the sea was moderately rough. Mr. Anthony Fokker, the designer of the monoplane, had often expressed concern at the load to be carried, which he thought was unnecessarily increased. Besides the pilot and navigator, Mr. Lloyd Bertand and Mr. J. D. Hill, a passenger, Mr. P. A. Payne, a New York editor, was on board. It was reported on Tuesday that some wreckage of the "Old Glory" had been found by the American steamer "Kyle" about 600 to 700 miles east of Newfoundland, but there was no sign of the crew.

The "Sir John Carling" also Lost

THE first Canadian attempt to fly the Atlantic has apparently ended disastrously, for nothing has been heard of Capt. Tully and Lieut. Medcalf since they left Newfoundland at 1.25 p.m. on September 7 for London in their Stinson monoplane, the "Sir John Carling." They were competing for a prize of £5,000 offered by a Canadian brewer. No wireless was carried, and the fuel capacity would have sufficed for 40 hours. The ocean liners that arrived at St. Johns, Newfoundland, later reported storms in the area through which the machine would pass. Some of the prize money will be given to the widows of the two airmen.

The "Royal Windsor" Retires

THE other Canadian attempt in the "Royal Windsor" has been abandoned. The crew, Mr. C. A. Schiller and Mr. P. Wood, were ordered to return home from Harbour Grace, Newfoundland, by their organising committee. They were also advised against searching for the "Old Glory."

Captain Fonck's Change of Plans

FOLLOWING the cry of public opinion in America against Atlantic flights, the Acting Secretary of the U.S. Navy recalled to duty Lieut. Curtin and Ensign Edwards, who had been given leave to accompany Capt. René Fonck, the French pilot, on a flight from New York to Paris. The latter now proposes a long distance record flight over land instead, in the Sikorsky machine, which has been christened "Ville de Paris."

Capt. Courtney Released from Obligations

THE *Westminster Gazette* telegraphed to Capt. Courtney on September 9 releasing him, as far as that newspaper was concerned, from any obligation to continue the flight from Corunna across the Atlantic. The Anglo-American Oil Company and Messrs. D. Napier and Son, Ltd., who are also interested in the flight, approved of this action. A later message reported that Capt. Courtney had decided to abandon his plans.

Capt. McIntosh's Decision

It will be the weather conditions and not public sentiment that will decide Capt. H. McIntosh about his attempt to fly the Atlantic in the Fokker monoplane, "Princess Xenia," from Dublin. His second pilot and navigator will now be Commandant James Fitzmaurice, who commands the Irish Free State Air Corps, and who thereby replaces Capt. A. Joynson-Wreford. The reason for this change is stated to be through an old war wound in his left knee-cap which gave Capt. Wreford some difficulty in holding the machine with its heavy load on a true compass course.

The French Effort

ACCORDING to some reports it would seem that the French pilots MM. Givon and Corbu—who made an unsuccessful attempt at the Atlantic crossing from Le Bourget on Sept. 1—intend to try their luck once more, in spite of the widespread agitation against any more such flights being attempted. Like Capt. McIntosh, they state that they are only waiting for suitable weather conditions before they make a second start. Their machine, "L'Oiseau Bleu," it will be remembered, is a Farman "Super-Goliath" Biplane.

Aeroplane Wreckage at Newquay

ON Monday of this week some aeroplane wreckage was washed ashore at Newquay, Cornwall. It consisted of a rudder and part of a wing, and may possibly belong to one of the lost Atlantic 'planes—probably the "Sir John Carling." The Air Ministry have sent down an expert to examine the parts.

SCHNEIDER TROPHY ITEMS

THERE are three outstanding incidents relative to the Schneider Trophy Race. First we have lost one of our competing machines, the "Bristol Crusader," which crashed into the sea at Venice during a preliminary trial on September 11. The pilot, Flying-Officer H. M. Schofield, was quickly rescued from the wreckage and found to be injured but not seriously. The Italian Under-Secretary for Air, Signor Balbo, visited him in the Naval Hospital later, and conveyed the sympathy of the Italian Premier, Signor Mussolini. Efforts are being made to save the "Crusader."

Secondly, America has withdrawn from the race. Full tests on her machine could not be completed in time, and therefore, the pilot, Lieut. Alford Williams, did not feel sure

that it would be equal to the occasion. His companion, Lieut. Bergen, sailed for Venice, however, on September 10. A cruiser had been placed at their disposal to convey them to Venice. It is reported that an application, on behalf of the American entry, had been made for a postponement of the race, but, of course, the rules do not permit this. The third main item of interest is the report that Squad.-Ldr. Slatter had created a speed of 312 m.p.h. in a practice flight round the course on one of the Supermarine-Napier S5's.

Sir Philip Sassoon, Under-Secretary for Air, will fly to Venice in order to see the race. He will be piloted by Flight-Lieut. A. G. Jones Williams, of No. 100 Squadron, Spittlegate, in a Fairey IIIF with Napier "Lion" engine.

The Royal Aeronautical Society and Institute of Aeronautical Engineers

THE Council of the Institute of Aeronautical Engineers have appointed the following members to serve on the Council of the Royal Aeronautical Society, with which the Institute is incorporated:—

Lieut.-Col. J. T. C. Moore-Brabazon, M.C., M.P.,
F.R.Ae.S.

Mr. M. L. Bramson, A.C.G.I., A.F.R.Ae.S., M.I.Ae.E.

Mr. F. T. Hill, B.Sc., Wh.Ex., A.F.R.Ae.S., M.I.Ae.E.

Mr. Norman J. Hulbert, A.M.I.Ae.E.

Capt. A. G. Lamplugh, A.F.R.Ae.S., M.I.Ae.E.

Mr. Fredk. R. Simms, M.I.Mech.E., M.I.Ae.E.,
M.I.Ae.E.

Mr. Lawrence A. Wingfield, A.I.Ae.E.

The Royal Air Force Memorial Fund

THE usual Meeting of the Grants Sub-Committee of the above Fund was held at Iddesleigh House, on September 8.

Lieut.-Commander H. E. Perrin was in the chair, and the other member of the committee present was:—Mr. W. S. Field. The committee considered in all 12 cases, and made grants to the amount of £88 10s. The next meeting was fixed for September 22 at 2.30 p.m.

Royal Aero Club Racing Fund

MR. ALAN S. BUTLER has very generously made a donation

of £50 to the Racing Fund of the Royal Aero Club of the United Kingdom.

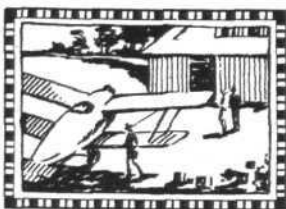
"Smith's" Annual Sports and Fete

THIS very important social function of S. Smith & Sons (M.A.), Ltd., was held on Saturday, August 27, in their Sports Grounds at Neasden. The organisers of this event had every reason to be satisfied by being favoured with one of the very few fine days throughout the month of August, and the members of the Athletic Club showed their appreciation to the "Clerk of the Weather" for this grace, by attending in great numbers. All the racing events were very keenly contested, the "Big" race being the Five-mile Marathon, which was accomplished in excellent time. In the presence of Mr. A. Gordon Smith, Managing Director and President of the Athletic Club, Mr. W. Henderson-Cleland, Chairman; Mr. S. D. Begbie, Director; and Mr. C. W. Nichols, Sales Director, the prizes were presented in the absence of Mrs. A. Gordon Smith, by Miss S. Smith, which included the Golden Seal Challenge Cup, presented by Mr. S. D. Begbie to commemorate the victory of Mr. A. Gordon Smith's greyhound, "Golden Seal," which won for him the "Waterloo" Cup this year. This cup was awarded to the department securing the most points. At the conclusion of the prize-giving, the assembly recorded their appreciation to the Committee for the excellent manner in which the day had been arranged.



FOR THE SCHNEIDER TROPHY RACE: A batch of Fairey-Reed metal airscrews being packed for transport to the Mediterranean. In the right-hand photograph six of these propellers are seen, with their packing cases. The pitch of the blades makes it quite evident that the propellers are for high-speed machines.

PRIVATE



FLYING

A Section of FLIGHT in the Interests of the Private Owner, Owner-Pilot, and Club Member

AUSTRALIAN CLUB NEWS

Mascot's Record Year

THE New South Wales Club at Mascot Aerodrome, Sydney, completed its first year of flying in August last. In eleven months 27 pupils have been trained to pass the tests for "A" licence under the Air Navigation Regulations. Three of these pilots were women. On club machines, 4,352 flights were made up to the end of June, equalling 1,154 hours' flying. Passengers carried totalled 2,006, and that does not include pupils on instructional flights. There has been no accident involving even minor injury to instructors or pupils, and only two small mishaps occurred which made damage causing structural repairs to machines. These figures are very good and the club believes that they probably constitute a record for the first year's operations of a flying club. The London Aeroplane Club, according to the N.S.W. Club's "Fly Paper," did 1,200 hrs. flying and trained 19 qualified pilots during its first year. In less flying hours the Australian Club has produced eight more pilots. An average week's flying is shown in the account for week ending July 1, 1927:—

Number of flights, 155; dual instruction, 15 hrs. 20 mins.; pupils solo flying, 8 hrs. 27 mins.; pilot members flying, 12 hrs. 29 mins.; total flying, 38 hrs. 28 mins.; number of passengers carried, 77; pupils under instruction, 10; pilot members flying, 13.

"A" and "B" Licence Reforms

The Committee has tried for a long time to have the conditions modified which concern the lifting of the endorsement for passenger carrying. The result has been favourable. The Civil Aviation Department has agreed to remove the endorsement in regard to "Moth" machines providing that the pupil has:—(a) Completed a course in advanced flying, including forced landings; (b) Carried out, whilst flying solo, a cross-country flight of at least 80 miles (out and home) during which at least one obligatory landing has been made at a place other than the point of departure, and at which the machine has come to rest. (c) In three successive attempts, successfully completed three landings after gliding from 1,500 ft. with engine throttled back, the wheels touching the ground on each occasion within 100 yards of a point or line fixed by the instructor previously. (d) Completed at least 25 hours in solo charge of a machine. A certificate must be received from the Club asserting that the conditions imposed have been complied with. The Chief Instructor must recommend and the Committee concur that the endorsement on the pupil's "A" licence prohibiting the carrying of passengers be removed. Club-trained pilots may now qualify for "B" licence on the Club aircraft.

Municipal Landing Grounds

THE Club recently approached the Town Planning Association with a view to encouraging the establishment of landing grounds by the municipal councils. As a result of the general interest aroused the following towns reported that they were taking immediate action:—Cowra, Wollongong, Coraki, Liverpool, East Maitland, Coonamble, Condobolin, Nyngan, Moss Vale, Camden, Launceston, Parkes, Grafton, Adelaide, Forbes, Goulburn; whilst the following towns are investigating the proposal:—Ballarat, Hobart, Young, Orange, Grenfell, Dundas, Katoomba, Junee, Yass, Brisbane, Too-

woomba. In other areas arrangements have already been made and the example is being eagerly followed.

New Design

A STRANGE aeroplane has arrived at Mascot called the "Ireland Meteor." It has some features quite unknown in the Commonwealth. It is of the axle-less type of chassis. It has a V-strut from one wheel to the centre of the under-carriage which takes the side thrusts in landing and reduces the danger of capsizing when striking very stony ground. A guard is fixed to the front of the tail skid to prevent damage from ground obstructions when taxiing. The principle employed is similar to that incorporated in a stump jump plough. The risk of fire in this machine is eliminated to some extent by fitting the petrol tank under the pilot's seat and surrounding it with a non-inflammable asbestos packing. The feed to the carburettor is by vacuum tank, and in the event of a broken petrol pipe, instead of the petrol flowing over the machine it ceases to flow from the tank at all, through the admission of air into the pipe. The pilot occupies the front of two cockpits with the passenger on his right, and the rear cockpit carries two passengers. Thus the machine is a four-seater. The control stick is curved back over the pilot's knees. No rudder bar is used, but pedals are operated which resemble the clutch and brake pedals on a car. There are brakes on the machine which do away with the use of chocks when running the engine, and assists when turning on the ground in any force of wind. It also pulls the machine up quickly after landing. The fuselage is entirely of steel tubing.

Unassembled "Moths"

THE Club received advice from the De Havilland Co. to the effect that they are prepared to supply one complete "Moth" less engine, in unassembled parts at the special price of £375 nett, delivered c.i.f. Melbourne, Perth, Adelaide, Sydney, or Brisbane. The details were as follows:—

(1) Fuselage complete, and already assembled, with seats, control unit, safety belts, and all metal fittings excepting instruments and instrument board, the latter being supplied ready for assembly to cockpits.

(2) All spars, ribs, diagonals, leading and trailing edges, and other wood parts including packing blocks, etc., for wings and empennage, ready for assembly after certain holes have been drilled. The spars are ready marked off for ribs and are drilled ready for strut and internal bracing bolts.

(3) All metal fittings are supplied ready for fitting with necessary bolts, nuts and pins. All control cables supplied spliced, with turnbuckles and shackles complete.

(4) Chassis complete with compression legs and axle already assembled. (5) All engine controls, petrol system, etc., ready for assembly to fuselage. (6) Fabric covers supplied already sewn.

The only tools required for the completion of the machine are ordinary spanners, pliers, etc., available at any aerodrome or amateur workshop. Drawings will be loaned by the company and full details of the various operations of assembly and erection given. Either the new type, DH.60A, or the present type can be supplied, and the price quoted covers the complete aeroplane less engine. No extras of any kind need be bought excepting dope and paint.

AERODROMES OF ENGLAND

By Air to the North

REPETITION may be monotonous, but it is not always futile. Knocking a nail in the wall constitutes a series of monotonous repetitions but they are not futile unless you smash your thumb and drive the nail into the next house in your justified rage. We have harped upon aerodromes for England rather thoroughly recently. It is because new information concerning landing grounds has trickled in and because the question

is constantly cropping up directly and indirectly. The following places can be added to our map of aerodromes:—

Tadcaster, Yorkshire:—The old war aerodrome might still be regarded favourably for emergency purposes. One hangar is left standing, although it is not always acceptable owing to the attentions of cattle. There are wired fences too that should not be tripped over. Also at Tadcaster is the

Tugs Polo Ground, which has been provisionally mentioned for possible descents.

Dunkeswick, Yorkshire:—The old emergency ground remains, but the bottom half nearest the river is the only part which does not slope towards the water. Dunkeswick is west of the Harrogate and Leeds main road, and the field in question is the property of the Earl of Harewood.

Municipal Aerodromes

Vast possibilities for the whole country are opened out by the suggestion of municipal aerodromes. At Liverpool a recent air visit by Sir Sefton Brancker seems likely to make the town seriously consider establishing itself as an air port. It was said by Sir A. Salvidge that if a practical scheme was brought before the City Council it would receive sympathetic regard. It is hoped that the coming "Civic Week" at Hooton Park will foster local interest too. Then the Glasgow Corporation is thinking over a similar proposal for that important town. Geographically the Clyde Valley does not offer a wide choice of suitable sites for a safe aerodrome, but that does not eliminate the area by any means.

England's Internal Air Lines

The tentative thoughts of so many towns towards the question should be urged on by the proposed schemes of Imperial Airways to weave a network of internal airways throughout England. According to the *Morning Post*, skeleton plans have been completed and towns in the Midlands and the North are to be asked to co-operate. The chief aim

of the idea is to feed the air routes to the Continent, for it is considered that for various reasons passengers would like to make the whole journey by air when travelling in and out of the country, and not have to break it at London and continue by road or rail. The through air trip from the Midlands and the North would also attract more air passengers. It is further thought that these internal lines would be valuable in transporting such goods for which the aeroplane is particularly suited to carry. Imperial Airways feel that holiday resorts, too, would benefit by special air services, for if it were known across the Channel that certain popular spas in England possessed aerodromes and that Imperial Airways had made regular arrangements to provide machines on request undoubtedly Continental visitors would be drawn.

Air Signs

It is equally necessary that the country should be identified from the air for the benefit of pilots. Each town and village should offer its air sign, and it would be a decided advantage if these signs should also indicate a similar compass direction, say, north or south. Railway stations are common to all towns and to many villages, and these might therefore be the best places for signs to be marked upon. They are usually conspicuous if only because railway lines guide the way to places. Incidentally a country thus identified would add a minor interest to air travelling. To be cognizant of your position and direction of travel is a definite comfort to most travellers, or at least it satisfies an intelligent interest and is also exceedingly helpful when telling the tale.

LIGHT 'PLANE CLUBS

London Aeroplane Club, Stag Lane, Edgware. Sec., H. E. Perrin, 3, Clifford Street, London, W.1.

Bristol and Wessex Aeroplane Club, Yate, Gloucester. Sec., C. S. Clarke, Channel Road, Walton Park, Clevedon, Somerset.

Hampshire Aeroplane Club, Hamble Southampton. Sec., Maj. Ross White, Hamble, Southampton.

Lancashire Aero Club, Woodford, Lancs. Sec., C. J. Wood, Oakfield, Dukinfield, near Manchester.

Midland Aero Club, Castle Bromwich, Birmingham. Sec., Maj. Gilbert Dennison, 22, Villa Road, Handsworth, Birmingham.

Newcastle-upon-Tyne Aero Club, Cramlington, Northumberland. Sec., A. H. Bell, c/o The Club.

Norfolk and Norwich Aero Club, Mousehold, Norwich. Sec., H. O. Bennett, 5, Opie Street, Norwich.

The Scottish Aero Club Movement, 101, St. Vincent Street, Glasgow. Sec.: Harry W. Smith.

Suffolk Aeroplane Club, Ipswich.—Secretary, Courtney N. Prentice, "Hazelidell," Stowmarket, Suffolk.

Yorkshire Aeroplane Club, Sherburn-in-Elmet, Yorks. Sec., J. F. Barnes, 39, Swan Arcade, Bradford.

LONDON AEROPLANE CLUB

REPORT for the week ending September 11.—Flying time: 36 hrs. 25 mins. Dual, 21 hrs. 15 mins. Solo, 10 hrs. 10 mins. Passenger flights, 5 hrs.

Dual instruction.—With Capt. F. G. M. Sparks: P. W. Hoare, G. Black, E. A. Lingard, H. Solomon, Miss Fletcher, L. Martin, R. G. Whalley, F. Clarkson, S. O'Hara, E. K. Brodrick, J. H. Veasey, Lady Hamilton, G. W. Hall.

With Capt. S. L. F. St. Barbe: E. L. Clarke, S. H. Simon, L. G. Sykes, G. E. Clair, J. Bickley, G. Lyon, L. M. O'Connor, E. A. Lingard, H. S. Greenland, G. W. Hall, E. K. Brodrick, A. S. Richardson.

Solo Flying.—O. J. Tapper, C. E. Murrell, A. R. Ogston, J. C. Horton, W. Hay, M. L. Bramson, J. H. Saffery, C. H. Swan, P. W. Hoare, G. M. Randall, Miss O'Brien, D. H. P. Esler, B. B. Tucker, E. S. Brough, G. C. Bonner, J. H. Veasey, J. J. Hofer.

Passenger Flights.—With Capt. F. G. M. Sparks: A. Fowler, R. Hayes, Miss Terry. With Capt. S. L. F. St. Barbe: A. Fowler. With W. Hay: R. Hayes, A. Fowler, J. J. Hofer, J. D. Lloyd, T. W. O. Richardson.

Liverpool Aviation Meeting.—The Committee has decided to enter a D.H. Moth and the "Bristol" Brownie for the various races at Hooton Park, Liverpool, on September 25. The selection of the pilots is left in the hands of Major K. M. Beaumont and Mr. N. H. Jones.

Air League Challenge Cup.—To commemorate the winning of the Air League

Challenge Cup the Committee has decided to present replicas of the Cup to the Club's representatives, Mr. N. H. Jones, Mr. W. Hay and the Hon. Lady Bailey, who occupied the first, second and third places respectively.

Club Accommodation at Stag Lane.—The Committee has for some time had under consideration the question of improving the facilities for Members at Stag Lane. The De Havilland Co. have recently acquired additional ground and it is shortly proposed to move all the buildings in front of the works to this new site. This includes the Club's Sheds. When this work is carried out the question of additional accommodation will be gone into.

BRISTOL & WESSEX AEROPLANE CLUB

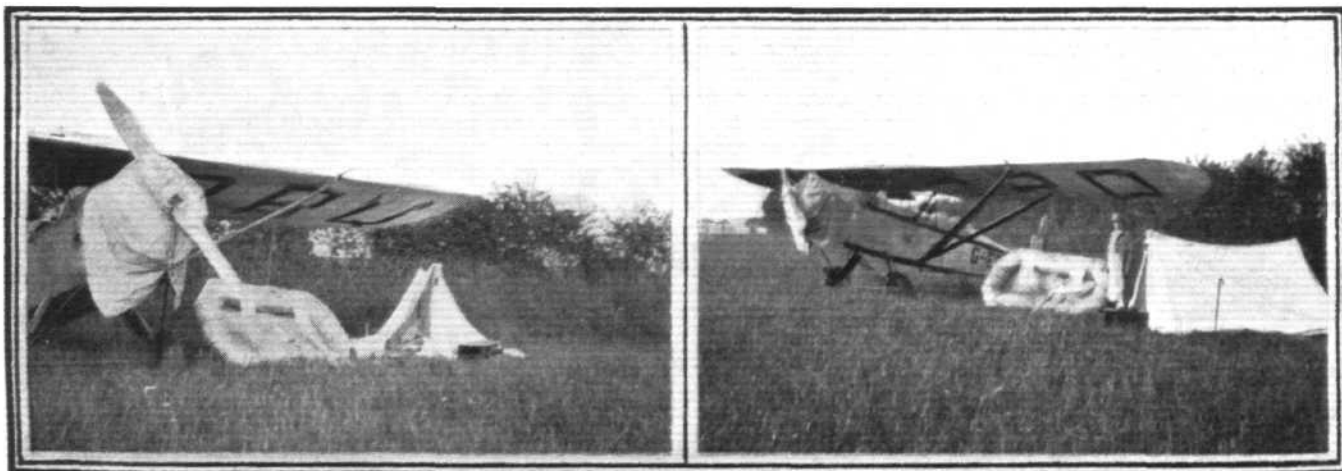
REPORT for week ending September 10.—Total flying time, 15 hrs. 5 mins. Instruction, 13 hrs. 25 mins. Solo, 20 mins. Passenger flights, 1 hr. 20 mins.

Instruction with Mr. Bartlett:—Miss Miles, Miss H. Pitman, Messrs. Amory, Bathurst, Downes-Shaw, R. S. Clarke Hall, Petar, P. Pitman, J. Pitman, Roberts Tiarks, Welch.

Soloist under instruction.—Mr. R. A. Halt.

Passengers with Mr. Bartlett.—Miss Clissold, Mr. Dean, Mr. Monk. With Capt. Uwins.—Mrs. Uwins, Miss Boucher. With Capt. Barnwell.—Messrs. R. A. Barnwell, J. S. Barnwell and D. O. Barnwell.

Every week marks a step forward in the progress of the club. This week saw the arrival by air of our chairman, from Stag Lane Aerodrome, in his own



"AND SO TO BED":—These interesting pictures were kindly sent by Mr. "Harold Brooklyn," a private owner, who flies a Westland "Widgeon." In this he made an air tour this summer in England, carrying, as will be seen, a portable tent and equipment, as well as, apparently, an inflated rubber raft or boat.

"Moth." Mr. Downes-Shaw went up to London on Friday accompanied by the instructor to bring down his own machine, and he thus becomes our first private owner.

Our pilot members now number over 50, this figure being reached early last week. It certainly will not be long before some of them follow the example set by Mr. Downes-Shaw and purchase their own machines.

Mr. R. A. Hall, accompanied by Mr. Bartlett, flew to Princetown to attend the conference of the British Institute of coach and automobile manufacturers, who are meeting this year in Torquay and who had assembled at Princetown for lunch.

The official opening of the club will be held on Saturday afternoon, October 8. A good programme has been arranged and we hope that all those who are interested in aviation will pay us a visit on this occasion.

HAMPSHIRE AEROPLANE CLUB

REPORT for week ending September 11.—Total flying time, 20 hrs. 25 mins. Instruction, 13 hrs. 20 mins. Solo flying, 6 hrs. 25 mins. Joy rides, 20 mins. Test flights, 20 mins.

Instruction with Flight-Lieut. Thomson: Mr. Duggan (a visitor from Canada who is in England for a few weeks and intends to learn to fly in that time), 3 hrs.; Cripps, 1 hr. 45 mins.; Dr. Morrison, 1 hr. 30 mins.; Lieut.-Comdr. Woodhouse, 50 mins.; Lieut. Hall-Thomson, R.N., 45 mins.; Lieut. Dalmeyer, R.N., 55 mins.; Lieut. Lambe, R.N., 55 mins.; Messrs. Vaughan, 20 mins.; Crook, 50 mins.; Bailey, 15 mins.; Dickson, 15 mins.; Courtney, 20 mins.; Baynes, 15 mins.; Hancock, 35 mins.; Boileau, 30 mins.; Stanford, 5 mins.; and Commander Hunt, 15 mins.

The soloists were: E. I. C. Wyllie, 45 mins.; Shepherd, 15 mins.; Sanders-Clarke, 50 mins.; Pargeter, 10 mins.; Cooper, 20 mins.; Fagan, 30 mins.; A. N. Other, 20 mins.; Nicholson, 10 mins.; Wells, 20 mins.; Parker, 35 mins.; Bowen, 25 mins.; Don de la Cierva, 10 mins.; F.O. Overbury, 40 mins.; F.O. Southey, 10 mins.; and Lieut. Graham, R.N., 45 mins.

Miss G. Breton and Miss P. Breton had joy rides with E. I. C. Wyllie, Mr. Nicholls with F.O. Overbury, Mrs. Crook and Mr. Lovat with K. P. L. Bowen and Mrs. Crook with our instructor.

Engine overhauls have put one of our machines out of action all this week, and no flying was possible on Tuesday and Thursday on account of rain.

On Sunday, Capt. Kittle flew down from Stag Lane in his new "X" Moth, with a friend in the front cockpit. We were all very envious of his mount, especially his very fine compass. However, honours were even, for Captain Kittle was covetous of our recording barograph and club house in general.

Incidentally, Sunday was a record day for this club's flying time with one machine, a total of 7 hours being reached.

LANCASHIRE AERO CLUB

REPORT for week ending September 10.—Flying Time, 34 hrs. 40 mins. Instruction, 13 hrs. 20 mins. Solo flights, 11 hrs. 15 mins. Passenger flights, 8 hrs. 45 mins. Test, 1 hr. 20 mins.

Instruction (with Mr. Brown): Messrs. Sykes, Browning, Taylor, Fallon, Allott, Brooking, Cohen, Ruddy, Pattieaux, Kinsley, Schofield, Wyler, Tweedale, Meades, Riley, Wilson. (With Mr. Cantrill): Messrs. Cohen, Brooking, Riley, Allott, Browning, Wyler, Rowley. (With Mr. Scholes): Messrs. F. Scholes and Fallon.

Soloists (under instruction): Messrs. Rowley, Anderson, Harbor, Fisher, Meades, Caldecott and Miss Baerlein. Pilots: Messrs. Williams, Costa, Leeming, Twemlow, Gattrell, Ward, Agar and Michelson.

Passengers (with Messrs. Brown, Cantrill, Scholes, Goodfellow, Leeming, Twemlow, Costa, Lacayo and Nelson): Mrs. Louison, Mrs. Holden, and Mrs. Longworth, the Misses Anderson, Emery, Browning, Rodman, Longworth, and Nation. Messrs. Edge, Jackson, Thorpe, Papadopoulos, Dyson, Scholes, Rose, Eastwood, Dearnley, Rowley, Longworth, Fallon, Lowe, Fisher, Mills, Caldecott and Emery.

Liverpool Civic Week Air Pageant, Hooton Park Aerodrome, September 24.—To stimulate entries it has been decided that private owners shall be eligible to fly on their own machines in the inter-club members' race, provided they enter on behalf of their club. The London and Midland clubs have, we under-

stand definitely entered, but no reply has yet been received from Newcastle, Hampshire and Yorkshire. We have supported the meetings of the two latter and hope that they will be able to reciprocate, even if only to the extent of sending a machine over to "show the flag," as the Bristol and Wessex Club is very sportingly doing.

We are still without any definite promise of Air Ministry support in the shape of modern types of service aircraft. With Liverpool and the Mersey-side trembling on the brink of becoming really air-minded, even to the extent of spending large sums of money on equipping a flying club and a first-class aerodrome suitable for an air-port, it will be in the nature of a tragedy if none of our modern service types are there to impress the good Mersey-siders.

Entries from the trade are promising and as it is said that £8,000 has already been subscribed or promised towards the formation of the proposed Mersey-side Flying Club, while half the profits of the Air Pageant go towards the same purpose, there is every reason to hope that the Light Aeroplane manufacturers will reap the benefit of their enterprise in this respect.

MIDLAND AERO CLUB LIMITED

FLYING hours week ending September 10.—Flying time, 13 hrs. 21 mins. Dual instruction with Mr. W. J. McDonough: E. P. Lane, O. L. Richards, R. L. Brinton, C. Dawson, R. D. Bednell, H. Lattey, Capt. J. E. Brewin, R. Cazalet, H. Beamish.

Solo: S. H. Smith, R. L. Jackson, R. L. Brinton, G. V. Perry, R. Cazalet, H. J. Willis.

Passenger flights (with Mr. McDonough): E. D. Wynn, J. H. Moore, W. Baldwin, H. C. Mander, G. Mander, W. H. Bush. (With Mr. Brighton): R. Darlington, L. F. Gundle. (With Mr. Willis): O. L. Richards.

NEWCASTLE-UPON-TYNE AERO CLUB

REPORT for week ending September 11. Total, 24 hrs. 45 mins.—Dual: 11 hrs. 30 mins. Solo: 6 hrs. 5 mins. "A" Pilots: 6 hrs. 5 mins. Tests: 35 mins. Passengers: 30 mins.

Instruction: Messrs. Rasmussen, L. Middleton, J. Middleton, Sadler, McDougal, Maxwell, Ferguson, Horn, Dr. Alderson, De Pledge, Griffiths, Turnbull, Hayton, Fairless, Lawson.

Solo: Messrs. Rasmussen, L. Middleton, J. Middleton, Wardill, Shaw, McDougal, Wilson.

"A" Pilots: Messrs. R. N. Thompson, W. B. Ellis, Jewett, Mrs. Heslop, Miss Leathart, Heppell, Turnbull, A. H. Bell.

Passengers: (With Mr. R. N. Thompson), The Masters Robson; (with Mr. W. B. Ellis), Mr. Irwin; (with Mr. J. D. Parkinson), Mrs. Fairless, Mr. Bulmer; (with Mr. A. H. Bell), Mr. Hayton, Mr. Nash; (with Mr. Simpson), Mr. Maxwell.

One whole day each of wind, fog and heavy rain, have seriously interfered with flying, in addition to bad weather on other days.

On Saturday, three privately-owned Moths were on the aerodrome at one time, those of the Marquis of Clydesdale, Lord Ossulston and Flight-Lieut. D'Arcy Greig. This is remarkable in an aerodrome so far removed from even the fringes of the flying areas of the country.

NORFOLK & NORWICH AERO CLUB

REPORT for week ending September 5. Total hours flown: 12. Dual with Capt. Lines: Mrs. H. Cator, Messrs. Birchall, Batterel, Neave. Solo: Messrs. Gough, Cubitt, Birchall, Moore, Pank and Ramsey. Passenger flights (members): Mr. H. Cator, senr. and Miss B. Cator.

We have this week been flying G-EBMP, loaned us pending the return of our own Moth, and although she is not up to ours she is a most excellent machine to handle, and has afforded a good experience to the flying members.

We have had a busy week; on Wednesday the meeting at the Royal Hotel was well attended and the results gave much satisfaction to active members. On Thursday we held the first Civic Air Meeting ever held in this country and perhaps in the world, the whole thing was a perfect success and all arrangements worked well. The Lord Mayor and 19 City Councillors actually went up with Capt. Lines, and we had to cease flying practically in the dark, but with many Councillors still wishing to go up. Every Councillor expressed his pleasure and sense of complete safety, and many promised to become Associate Members of the club; we hope they will often visit us. The catering was successfully carried out by Messrs. Langfords, who also are in attendance on Thursday and Saturday afternoons. We are anxious to get a larger number on these two afternoons and hope members, both associate and active, will please note.

On Sunday, the Lord Mayor and Lady Mayoress came along and had tea; we were very pleased to see them and hope they will come more often. The Lord Mayor saw how acutely we required another machine, there were enough applications to fly to keep two machines going the whole afternoon.

In addition to the usual excitement, our instructor, Capt. Lines, bowled up after tea with a mechanical contraption in which he informed us he had just done 73 m.p.h. We rather doubt this, especially as we found there was no carburettor on the machine when it arrived. It seems very unfortunate that this particular contrivance refuses to function on aviation spirit, we therefore express our deep sympathy to Capt. Lines. After seeing him in charge of the proposition our members have come to the conclusion that flying must be indeed a tame job.

SUFFOLK AEROPLANE CLUB

REPORT for week ending September 11. Flying Time: 10 hrs. 40 mins. Instruction (with Mr. D. Carnegie): G. Hutley, S. Schofield, C. N. Prentice, N. Creasy.

Instruction (with Mr. N. Comper): Miss D. Creasy, Dr. Sleigh, H. Billinton, S. Schofield, G. Hutley, N. Creasy, C. N. Prentice.

Passengers: Mrs. Hutley, Miss Creasy, G. Hutley, F. Jolly, S. Hutley, F. Clifton.

Solo: Courtney N. Prentice. Five new members were enrolled this week, and the "Bluebird" has been kept very busy. Squally weather and rain held up flying for two days.

YORKSHIRE AEROPLANE CLUB

REPORT for week ending September 10. Flying Time: 30 hrs. 45 mins. Instruction: 17 hrs. 20 mins. Soloists: 9 hrs. 30 mins. Passengers: 3 hrs. 55 mins.

Instruction (with Mr. Beck): General Atcherley, Capt. Milburn, Miss Woodhead, Hirst, Ten Bos, Bailey, Brown, Tattersall, Gratwick, Crouther, Dujardin, Mason, Priestley, Micklethwait, Leatham.

"A" Licence: Miss Woodhead, Capt. Milburn, Messrs. Wood, Little, Norway, Thomson, Wilson, D. Atcherley, R. Atcherley, Watson, Rhodes, Brackenbury.

Passengers: (With Capt. Milburn)—Messrs. Herbert, Ingham, Blackburn. (With Mr. Thomson)—Mrs. Herbert.

The "Bluebird" which arrived last week, has turned out to be very popular, as was expected, and quite a number of members have already gone solo on it.

Capt. Milburn now has his Moth back from Londo and is helping us considerably to put up flying hours.

Don't forget our Pageant, October 1 and 2.



Mr. A. B. Torres, who has recently obtained his "A" licence at the Lancashire Aero Club.

CONCERNING PRIVATE FLYING

British Light 'Plane Record Confirmed

THE F.A.I. has homologated as a world's record for light 'plane two-seaters (Category I) the altitude reached by the Hon. Lady Bailey on July 5, 1927, in a de Havilland "Moth" with "Cirrus II" engine. The corrected altitude granted was 5,268 metres (17,283.47 ft.). It may be remembered that on her record flight Lady Bailey was accompanied by Mrs. Geoffrey de Havilland.

Private Owners at Venice

A NUMBER of private owners are flying to Venice to see the Schneider Trophy Race, including Capt. G. de Havilland who is flying in his "Moth."

Australian Flight Ended

MR. DENNIS ROOKE, who had met with so much trouble in his effort to reach Australia in his own "Moth" and arrived at Calcutta last August and entered a hospital, has now abandoned the flight owing to difficulties incidental to securing a new machine.

Simla Aero Club

THE new aero club at Simla was opened on September 9 by 50 members of the Central Legislature. It was stated that the Government of India was formulating a scheme to grant a scholarship for the training of Indian youths in flying. Major Impey was appointed secretary of an executive committee formed of members of the Legislature.

Private Owner's Mishap

MR. MAURICE JACKAMAN, private owner of a "Moth," who learned to fly with the London Aeroplane Club, crashed at Littlehampton when taking off on September 13, after one of his regular bathes in the sea there. He has been in the habit of flying there from his home at Slough for an early morning bathe and getting back in time for breakfast. He was accompanied by his brother on this occasion, and had just ascended for the return flight when they got into difficulties and nose dived from about 100 ft. Both brothers were hurt, but not seriously. They were taken to hospital and are progressing favourably.

London-South Africa Light 'Plane Flight

ON his flight to South Africa, Lieut. Bentley reached Heliopolis, Cairo, on Sunday, September 11. He left again on September 13 for Assouan.

In Jail

A "MOTH" landed in the prison grounds at Princetown recently carrying a member of a Bristol firm who was visiting

his partner, a visitor to Princetown as a member of the Automobile Manufacturers' Conference.

Mrs. Elliott-Lynn's Scottish Tour

IN the course of her air tour in Scotland, Mrs. Elliott-Lynn flew over Glamis Castle with the Hon. John Bowes-Lyon, Master of Glamis, as her passenger. She had been staying at Glamis Castle. A landing was next made at Lochee Park, Dundee. Here the municipal council gave a luncheon, at which the Countess of Strathmore, who had come over by car, was present, as well as the officials of the Scottish Air League. The Lord Provost presided, and he afterwards headed the list of over fifty people who had flights on becoming members of the Air League. The flights concluded at 5 p.m., and the Lord Provost and Mrs. Elliott-Lynn climbed on top of the "Avian," and the former gave an address on the history and progress of aviation and the need for support of existing organisations today. A crowd of over 8,000 was present. In the course of a flight, when the Hon. Jean Strutt, aged about five, was a passenger, a forced landing was made, but the crowd was quite unaware of it. This air tour of Mrs. Elliott-Lynn's is being carried out in the interests of the Scottish Air League, to recruit members, and to assist the Scottish Flying Club.

Famous Pilot's Return from Riga

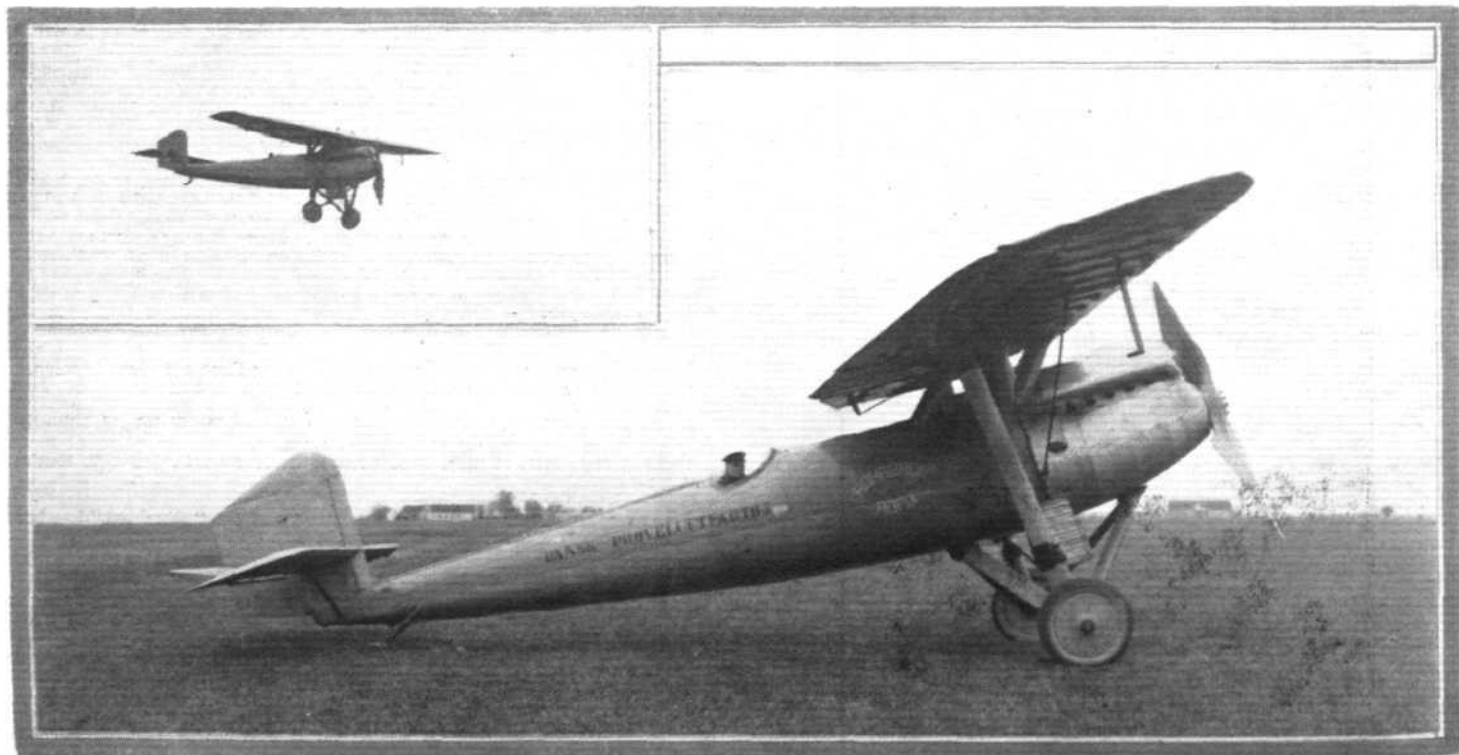
MR. BERT HINKLER has returned from Riga in his "Avian," having left on September 9, and arriving in this country on September 11. He did not attempt the non-stop flight again, and broke his journey to spend some time at Berlin. He encountered very strong head winds most of the way.

Another Woman Pilot

MRS. M. CARBERY, whose husband was well known as a pilot at Hendon before the war, completed her flying tests at Stag Lane recently.

"Dangerous Dan's" Mishap

MR. DUDLEY WATT, a well-known private owner, crashed in the sea off Ventnor, Isle of Wight, when returning from the Copenhagen meeting. He had run short of petrol and just missed in an effort to land on the cliffs, with the result he fell on to the rocks below and the machine sank in the water. Neither he nor his passenger, Mr. Stone, was injured. His difficulties had been added to by the compass failing, and visibility being very bad.



THE ROHRBACH "ROFIX": Two views of the new metal single-seater fighter constructed at the Rohrbach works at Copenhagen for the Turkish Government. It was on this machine that the famous German pilot Baeumer was killed under rather unusual circumstances. He was concluding a successful test flight on July 15 with a spin from 3,000 m., but for some unexplained reason he failed to regain normal position, and plunged into Copenhagen Sound, and was drowned.



AIRISMS FROM THE FOUR WINDS.

Round-the-World Flight

MR. SCHLEE and Mr. Brock reached Rangoon from Calcutta on September 7. A fierce monsoon storm was encountered on this stage and visibility was very bad. The "Pride of Detroit" battled with the storm for a time but eventually had to go with it. They left Rangoon the next day and reached Hanoi, in Tongking. Hong-Kong was the next stopping place on September 9, and Shanghai a day later. On September 11 they were forced to land at Omura, near Nagasaki, through lack of petrol, and left again in the morning, but had to return owing to a storm. Friends of the airmen have petitioned the Secretary of the Navy in America to prohibit their proposed Pacific flights, requesting that the airmen be refused permission to leave Japan by air on the grounds that neither are navigators. The Secretary, in reply, expressed sympathy, but declared that he had no authority over the movements of private individuals. As the continuation of the flight from Omura to Tokio has been announced as indefinitely postponed rumours have suggested that the two airmen have decided not to make the Pacific flights.

Air Tour of Australia Completed

GROUP-CAPT. WILLIAMS arrived at Melbourne on September 10, after his recent air tour throughout Australia to inspect landing grounds and air routes. He covered 13,000 miles. He stated that there is sufficient survey work for aeroplanes and a survey ship for at least a year in the northern waters. He discovered three uncharted rivers in Melville Island, off the north coast of Australia.

Berlin's Air Meeting

ON September 11 a big air display was given in Berlin at the Tempelhof Aerodrome in connection with the Berlin gymnastic and sports week. Balloon events opened the programme, followed by aerobatics by famous German pilots. Then came a parade of 14 types of training and commercial machines, designed to reveal the stages through which a pilot proceeds from first lessons on a Heinkel HD.32 to the advanced period when he flies a Junkers G.24 or Dornier Merkur, carrying many passengers. Trick flying was then given by Herr Fieseler which included forward loops, a stunt that excited considerable attention at the recent Zurich meeting. Formation flying was given by six young amateurs from Bonn aerodrome club and there were fine displays by a squadron of heavy three-engined commercial machines. In the afternoon Herren Raab and Katzenstein tried to repeat the experiment of towing a glider. The first effort was a failure and to fill in the time Herr Udet and Capt. Von Köppen did trick flying. This was carried out at a low altitude, and Capt. von Köppen suddenly nose-dived into the sandy soil of the aerodrome, smashing the machine and breaking his leg, besides receiving other injuries. Capt. Broad, the De Havilland test pilot, was present, having come on from Copenhagen, where he had had a most successful time. He went up on a "Moth" but confined himself to looping, at the wishes of the officials, who decided on precaution after the previous accident.

Gordon Bennett Balloon Race

THE Gordon Bennett Balloon Race commenced on Saturday, September 10, from Detroit, America. Fifteen balloons set off. The German balloon, "Brandenburg," came down at Sugar Island, in Lake Erie, about 4 hours after the start, owing to the gas valves failing to act properly. The French entry, "Paris-Bruxells," landed at Dunn, North Carolina, on September 11, as well as the Swiss "Helvetia" at Statesville, the Italian "Dux" at Newberry, the U.S. Army entry at York, the Belgian "Belica" at Syracuse, and the Belgian "Wallonie" at Greenville, all in South Carolina. The British entry landed safely at Randolph. This was the "Bee." The Italian "Rex" balloon came down near Shelby, North Carolina, through a leaking gas valve. The prevailing winds were fierce enough to drift the balloons towards the Great Lakes but fortunately there have not been any storms. Each balloon was capable of remaining in the air for three

days, and carried provisions. The U.S. balloon "Detroit" is unofficially declared the winner. It landed at Baxley, Georgia, having covered 725 miles.

American Entries for Spokane Air Carnival

THE entries for the United States long-distance air races which begin on September 21, now total 111. There are four entries for New York-Spokane non-stop flight, seventeen for the transcontinental race with six stops, twenty-seven for the race with ten stops, one for the San Francisco-Spokane race, and sixty-two for other events. In all the long-distance races (with the exception of the ten-stop one) the first prize is £2,000. In the latter it is £1,000.

Not an A.B.C. "Scorpion"

OUR attention has been called to a caption which appeared in last week's issue of FLIGHT under some photographs of machines built by the Experimental Light Plane Club of Nottingham, and the wording of which was such as to be open to misconstruction. In stating that one of this club's machines had been fitted with an A.B.C. engine it should have been made clear that the reference was to one of the little 400 c.c. motor-cycle engines, and not to the "Scorpion," which is, of course, a much more recent engine, specially designed for aircraft work and holding the Air Ministry's airworthiness certificate. The reason why the other engine did not give very good results was that it was not powerful enough for the machine (developing no more than about 8 or 9 h.p.). The "Scorpion," on the other hand, develops a maximum of 40 h.p. at 2,750 r.p.m. and has been used in several light 'planes at home and abroad with excellent results.

Hawkers in Denmark

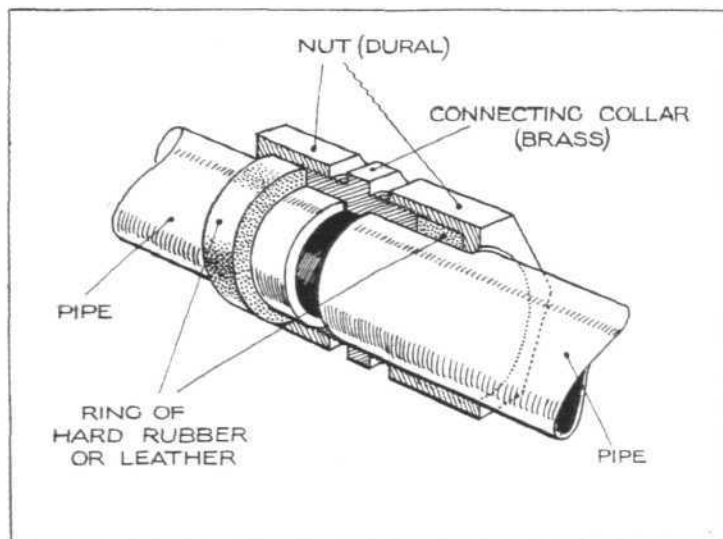
IN connection with the recent aero show in Copenhagen, Mr. F. Sigrist, joint managing director with Mr. T. O. M. Sopwith of the H. G. Hawker Engineering Company, accompanied by Mr. Jones of that firm, paid a visit to Copenhagen. The Hawker representatives were received everywhere with typical Danish hospitality, and have brought back with them nothing but pleasant memories and a great admiration for the keenness of Danish aviation circles. One gathers that the usual Hawker efficiency was well in evidence in various places in Copenhagen, outside the Forum no less than inside.



TABLE-TOP AERONAUTICS : This is a photograph of Toydon Aerodrome, showing in the foreground an Avro 504K and behind a Bristol "Bloodhound." It is the work of Mr. R. S. Allon of South Woodford, the machines being constructed—with the help of "Flight" scale drawings—to a scale of $\frac{1}{4}$ in. to the foot out of cardboard. Unfortunately we cannot recognise the pilot standing outside the "Trust House." Our readers will, we think, agree that it is all quite realistic.

A NEAT PIPE CONNECTION

IN view of the number of pipe connections found in an average aeroplane it is scarcely to be wondered at that a great variety of types have been produced. One of the



A NEW "GLOSTER" PIPE CONNECTION: Used primarily for airspeed indicator connections, this union is, of course, applicable to quick repairs of ordinary pipe connections.

neatest, simplest, lightest and at the same time most positive that we have come across has recently been produced by the Gloster Aircraft Co., Ltd., of Cheltenham. This pipe connection, which is explained in the accompanying sketch, has been produced mainly for use in airspeed indicator installations, but the principle is, of course, also applicable to a number of other pipe leads, and forms a particularly neat and effective way of making a repair.

As the sketch shows, the connection consists of three metal parts and two rings of flexible material such as rubber or leather, for example. The central portion or collar is made of brass, while the two nuts are of Duralumin. In this way any tendency to seize is avoided. The action of the connection is obvious from the sketch. When the two Duralumin nuts are tightened up, the flexible rings are compressed lengthwise, the pressure causing them to expand laterally, thus making a tight joint between the pipe and the nuts. Moreover, the pressure of the rings is sufficient to lock the nuts in place, and in fact it has been found that these do not work loose under vibration.

Another advantage of this type of connection is that, the pipes being a loose fit in the ends of the nuts, the rubber or leather rings form ball joints in which the pipes are free to swing slightly. This fact avoids any tendency for the pipes to become brittle at the union, the "play" being sufficient to prevent this. The fact that the pipe ends are cut off flush and merely inserted in the nuts, pushed into the central union, and the nuts tightened up, makes for very quick assembly, and dismantling a joint made in this way is equally simple.

It would seem that the Gloster pipe union deserves to be used in many places other than for airspeed indicators.

BASIC PRINCIPLES OF AIR WARFARE*

THERE may be many excellent reasons which induced this author to write under a pseudonym. We must respect them, whatever they may have been. The signature, "Squadron Leader," suggests, nay, asserts that the writer is, or has been, an officer in the Royal Air Force. It does not, however, preclude the possibility that he has attained a higher rank than he chooses to claim. That he is a person of some standing seems to follow from the fact that Major-General Sir Edmund Ironside has written an appreciatory Foreword. Some clue to the writer's identity may be afforded by the dedication to the memory of Lieutenant B. Carleton-Smith, observer, No. 100 Squadron, R.A.F. In any case, the student of air force interests will take off his hat to the unknown writer of this arresting book.

"The Basic Principles of Air Warfare" is, with the exception only of Mr. Spaight's "Air Power and War Rights," the most important treatise yet written in English upon aerial warfare. The thoughts expressed in it are, it might almost be said, original. That, however, would not be quite fair, for ideas which are original are often fantastic, and these are sound and sober. But when two opposing parties have been writing partisan stuff for some time, and both have grown fantastic, a sudden cold douche of fact and logic is apt to seem original. In reality, everyone ought to have thought of the facts and the logic for themselves at an early stage; but the warmth of the argument has led them into other paths. It is easy and tempting for those who are dazzled by the wonders of a new arm to exaggerate its powers. It is equally easy and tempting for crusty conservatives, who hold all novelties in execration, to expose and ridicule the exaggeration. Steady progress has to be made with either exaggeration or ridicule. That is the line taken by "Squadron Leader."

At the very outset the author summarises his views:—He "does not accept the belief that the forces of the air will support those of the sea and the land. He prefers to regard all three services as essentially complementary. That air forces, however, efficient and brilliantly directed, will be able to control sea communications or to win battles on land, is a figment which needs little refutation."

To quote every striking sentence in this book would mean practically reprinting the whole 133 pages. In consequence, it is difficult to summarize, for the method of expression is both laconic and logical, and there is not a passage between the covers which could be called padding. Yet, so clearly is the argument put that the volume is not only readable, but of absorbing interest.

Of recent years, very many speakers and writers on aerial warfare have

stated that armies are no longer necessary because victory is impossible if the spirit of the civil population is broken, and that a dominant air force will speedily break that spirit by intensive "striking at nerve centres," or in other words, bombing civilian cities. "Squadron Leader" sets out to controvert that view, and his closely-reasoned arguments will not easily be upset. Certainly, if one air force attained such mastery of the skies, that it possessed complete liberty of action, the opponents would probably be well advised to sue for peace, and that before the intensive bombing had taken place. But can such an overwhelming victory be obtained? Air casualties will be enormous, and the author points out that the question of reserves and replacements will be all-important. "The problem of replacement of trained personnel will probably be more acute in the next than in the late war. Supply on the material side may easily outstrip that of trained personnel. Those who imagine, therefore, that the next war will see more and more aircraft employed, are likely to be disillusioned."

In any case the first object must be the destruction of the enemy's armed forces. While he has a single aerodrome left to bomb, it would be waste to drop a bomb on a civilian city. And, if neither air force achieves a decisive victory over the other, then obviously the opposing navies and armies will have to fight the matter out; and while they are in conflict both air forces will be busily engaged in helping their own navy and army. Consequently "Squadron Leader" sums the matter up as follows:—"What, then, are the chief objectives for air forces? I think it will be agreed that they are: firstly, to defeat the opposing air forces in battle; secondly, to attack targets of military importance as circumstances dictate, in order to support the naval, army and air operations; and thirdly, to attack, with due regard to circumstances and to the military situation, vital points within the enemy's country." The order in which these objects are placed should be noted.

"Squadron Leader" supports his arguments with plentiful quotations from authorities such as Foch, Robertson, Haig, Jellicoe, etc. In connection with the last-quoted passage he refers to a despatch of Sir Hugh Trenchard, which admitted "that the bombing of Germany was a luxury till this (i.e., the holding and beating of the German air force) had been accomplished, but that, once this had been accomplished, it became necessary to attack what I may call the German Army in Germany, and to strike at its most vital point, its sources of supply; and the Independent Force was formed with this object."

It seems that "frightfulness" can never be a primary object of any martial force, as so many air writers now take for granted; and when one comes to think of it this conclusion is only ordinary common sense. Moreover, as this book points out, and as history teaches, no first-class nation ever has had its "will to victory" broken by frightfulness; and such a collapse is no more likely to happen in the future than it was in the past. One may learn a lesson by visiting the gardens next the Houses of Parliament and gazing on Rodin's sculpture of the Burghers of Calais.

One could discuss the salutary lessons of this book for hours; but perhaps enough has been said to indicate that it is the plain duty of every R.A.F. officer who loves his profession to read it and study it. The same remark applies to officers of the navy and army; and in particular the staffs and staff colleges of all services should give the book their earnest professional attention.

F. A. DE V. R.

* "The Influence of Air Power on Sea and Land Strategy"; by "Squadron Leader." Gale & Polden. 7s. 6d. net.

An Interesting "Gloster" Brochure

WE have just received from the Gloster Aircraft Co., Ltd., of Cheltenham, an extremely attractive and interesting brochure on the subject of "Gloster" aircraft and the Schneider Trophy contest. The text is written both in English and Italian, and not only gives a brief outline of the Gloster company's activities in the Aircraft World, but also includes

a short description of the "Gloster-Napier IV" seaplane, which has been constructed for this year's Schneider Trophy contest. Some particulars are also given of the British pilots who have been sent out to Italy in connection with this classic contest. Other items include a list of "Gloster" records, descriptions of the Gloster-Hele-Shaw Beacham variable pitch airscrew, and some of the Gloster aircraft.

THE ROYAL AIR FORCE

London Gazette, September 9, 1927

General Duties Branch

Pilot Officer E. L. S. Ward is promoted to rank of Flying Officer (June 16). The following are transferred to the Reserve:—Class A.—Flight-Lieut. F. E. C. Benstead (September 10); Flying Officer W. C. Venmore, September 1. Class C.—Flying Officer K. N. Hesketh, August 26. Flying Officer E. C. Roark, September 9. Flight-Lieut. A. L. Russell is transferred to Reserve, Class A, August 23 (substituted for *Gazette*, September 2).

Stores Branch

Flying Officer L. W. Park is granted a permanent commn. in this rank, with effect from October 1, 1926, on completion of probationary service.

Accountant Branch

Pilot Officer A. W. Younghusband is confirmed in rank and promoted to rank of Flying Officer, August 3.

Medical Branch

Flight-Lieut. F. P. Schofield, M.B., is granted a permanent commn. in this

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified:—

General Duties Branch

Wing Commanders: Robert Leckie, D.S.O., D.S.C., D.F.C., to H.Q., Coastal Area, Supernumerary and for duty with H.M.S. *Courageous* (Pending Commissioning); 26.8.27. H. Gordon-Dean, A.F.C., to H.Q., Wessex Bombing Area, Andover, for Tech. Staff Duties; 6.9.27. G. R. M. Reid, D.S.O., M.C., to H.Q., R.A.F., Middle East, for duty at Khartoum; 8.9.27.

Squadron Leaders: G. B. A. Baker, M.C., to Heliopolis Details, Middle East; 26.8.27. W. H. Dolphin, to H.Q., Iraq Command; 7.6.27. A. S. G. Lee, M.C., to R.A.F. Staff College, Andover; 16.8.27. H. E. F. Wyncoll, O.B.E., M.C., to H.Q., Coastal Area, 15.9.27. J. O. Andrews, D.S.O., M.C., to Air Ministry, Directorate of Operations and Intelligence; 15.9.27. J. P. Coleman, A.F.C., to H.Q., Air Defence of Great Britain; 29.8.27. R. H. G. Neville, M.C., to No. 60 Sqdn., India; 2.9.27. H. H. MacL. Fraser, to No. 13 Sqdn. Andover; 8.8.27.

rank, September 7. Major A. K. Macdonald, Army Dental Corps, is granted a temp. commn. as Squadron Leader on attachment to R.A.F., September 5. He will continue to receive emoluments from Army sources. Flight-Lieut. G. A. Ballantyne, D.F.C. (Capt., Army Dental Corps), relinquishes his temp. commn. on return to Army duty, September 5.

RESERVE OF AIR FORCE OFFICERS

General Duties Branch

G. Colledge is granted a commission in Class A as Flying Officer, September 6. E. T. D. Offer is granted a commission in Class A.A. as Pilot Officer on probation, August 15. Pilot Officer on probation L. J. C. Mitchell is confirmed in rank, September 6.

The following relinquish their commissions on completion of service:—Flying Officer M. D. Allen, Flying Officer S. E. Sutcliffe, September 2. The commission of Pilot Officer on probation D. A. Naismith is terminated on cessation of duty, August 18.

Stores Branch

Flying Officer C. N. Scott, to No. 2 Armoured Car Co. and Repair Section Middle East; 13.8.27.

Accountant Branch

Flying Officers: B. L. Blofeld, to School of Naval Co-operation, Lee-on-Solent; 26.9.27. A. W. Younghusband, to Home Aircraft Depot, Henlow 15.9.27.

Pilot Officer J. H. Glenn, to No. 1 School of Tech. Training (Apprentices), Halton; 1.9.27.

Medical Branch

Squadron Leaders: P. H. Young, M.B., to H.Q., Coastal Area; 8.9.27. D. McLaren, M.B., to Hospital Orderlies Training Depot, Halton; 8.9.27.

Flight Lieutenants: G. J. Griffiths, to Basrah Combined Hospital; 13.8.27. J. M. Maxwell (Q.-Mastr.-Med.) to R.A.F. General Hospital, Iraq; 9.8.27.

Flying Officer J. M. Ritchie, M.B., to Research Lab. & Med. Officers School of Instruction, on appointment to a Short Service Commission; 1.9.27.

Entry Examination for Cranwell

An examination for the entry of flight cadets into the R.A.F. Cadet College, Cranwell, will commence on November 15, when not less than 35 cadetships will be offered for competition. Application to sit for the examination should be made to the Secretary, Civil Service Commission, Burlington Gardens, W.1, but in no circumstances will completed entry forms be accepted after September 28. All candidates must be fit and willing to fly and be between the ages of 17½ and 19½. Normally, they will be required to produce school certificate A or B before their candidature will be accepted.

At this examination prize cadetships will be awarded to the first six candidates in order of merit, which will enable the recipients to complete the course at the Cadet College at a total cost of only £40, resulting in a saving to their parents of £210. The normal cost of the two years' course at Cranwell is £250, but this sum covers the cost of uniform, books, &c. Flight Cadets receive pay at the rate of 7s. a day, and this should suffice with proper care to meet all expenditure for messing, games, etc., and to provide adequate pocket money. Parents are advised not to supplement this sum by a private allowance.

On passing successfully out of Cranwell, flight cadets are granted permanent commissions as pilot officers, subject to medical fitness, receiving a grant of £50 towards the cost of providing officer's uniform. The cash emoluments of a pilot officer at present amount to £274 a year and in addition free quarters, light, fuel, rations and the part services of a batman are provided. After 18 months' service they become eligible for promotion to the rank of Flying Officer, with substantially increased rates of pay, the cash emoluments being about £344 a year.

Full details as to entry into Cranwell are contained in Air Publication 121 "Regulations for admission to the R.A.F. Cadet College" (price 4d. net), which can be obtained through any bookseller or direct from H.M. Stationery Office, Kingsway, W.C.2. General information as to the career offered by the R.A.F. is provided in A.M. Pamphlet 27, which can be obtained upon application to the Secretary, Air Ministry.

Admiralty Announcements

THE following appointments in the Royal Navy and Royal Marines will be offered for competition at the Navy, Army and Air Force examination next November:—Naval cadetships (for executive duties), eight; for engineering duties, seven; for master cadetships, seven; first appointments, Royal Marines, six. Successful candidates for R.M. will be entered in the Corps as from September 1, 1928. Forms of application, to be obtained from the Secretary, Civil Service Commission, Burlington Gardens, W.1, must be completed and returned to the Civil Service Commissioners, not later than September

28 next. After that date no form of application can be accepted.

R.A.F. Cadetships and Scholarships

AIRCRAFT Apprentices D. W. Lane, L. Crocker and K. P. Lewis from No. 1 School of Technical Training (Apprentices), Halton, and Aircraft Apprentice R. L. Phillips from the Electrical and Wireless School, Flowerdown, have been selected for cadetships at the R.A.F. Cadet College, Cranwell, on the results of the examinations held on completion of their three years' training as aircraft apprentices.

"Sir Charles Wakefield" scholarships valued at £75 each have been awarded to Flight Cadet W. T. F. Wightman on the result of the recent competitive examination for entry into the R.A.F. Cadet College and to Flight Cadet D. W. Lane. The "Hyde-Thomson Memorial Prize" valued at about £33 has been awarded to Flight Cadet R. L. Phillips. The successful candidates come from the following places:—D. W. Lane, Gillingham, Kent; L. Crocker, Brixton, S.W.2; K. P. Lewis, Bromley, Kent; R. L. Phillips, Swindon; W. T. F. Wightman, Upper Norwood, S.E.

Reunion Supper

THE 28th Squadron (R.A.F.) Old Boys' Association, is holding a Supper at the "White Horse Hotel," Holborn, on October 1. They assemble at 6 p.m. and the supper is at 6.30 p.m. prompt. Tickets are 3s. 6d., and can be obtained from the Hon. Secretary, C. T. Hodges, 102, Camden Street, London, N.W.1.

Cruelty to "Southamptons"

A SUPERMARINE "Southampton," fitted with two Napier "Lions," has recently been undergoing overload trials at Felixstowe. We gather that the machine behaved in a most satisfactory manner, in spite of the fact that it was loaded up to a weight of rather more than 18,000 lb. As the normal loaded weight of the machine is 14,300 lb., it will be seen that the extra 4,000 lb., if carried in the form of petrol, would result in giving the "Southampton" a very long range, probably sufficient for the Atlantic flight.

More Air!

THE famous jazz-band of Jack Hylton's flew over Blackpool recently in an Imperial Airways liner and dropped a packet containing copies of a new song, entitled, "Me and Jane in a Plane"! They may fulfil engagements in 12 different towns by air in one week in the future.

Say this Quickly

VERBAL tests for proving drunkenness meet with considerable differences of opinion on their efficacy. It has casually occurred to us that the following official term would definitely prove soberness if it was repeated a few times with complete lucidity:—"Fleet Fighter Flight."

AIR MINISTRY NOTICES

Hythe Danger Area

WITH reference to paragraph 72 (2), p. 28, of the Air Pilot, cases have recently occurred of aircraft flying over the Hythe Danger area. The attention of all pilots is drawn to the necessity of avoiding this area, owing to the extreme danger caused by the height attained by projectiles, and to the fact that kites are flown, the cables of which are not marked and are not visible from the air.

(No. 71 of 1927.)

Holland : Flushing Meteorological Ground Signals Moved

1. THE meteorological ground signals which were displayed near the lock at Flushing have been moved to a new position approximately 150 m. N. of the old position. Paragraph 10 of the Schedule of Flushing Aerodrome, published in A.P.M.S. 7, should be annotated accordingly.

(No. 72 of 1927.)

Examination for Air Navigators

AN examination for 1st and 2nd Class Air Navigators' licences will be held at the Air Ministry, Gwydyr House, Whitehall, on Monday and Tuesday, October 10 and 11, 1927.

Application forms, the syllabi, and conditions of examination, may be obtained on application to the Secretary, Air Ministry (C.A.2), Gwydyr House, Whitehall, London, S.W.1.

Formal applications to sit at this examination should be received at the above address not later than October 3, 1927. Candidates should give with their applications full details of any qualifications and experience they already possess.

Before a licence can be issued, candidates will have to pass a medical examination at the Central Medical Board, 5-6, Clements Inn, London, W.C.2. Arrangements can be made for this examination to take place on October 12, 1927, if candidates make early application to be examined on that day.

(No. 74 of 1927.)

GROUND ENGINEERS

Tightening of Nuts, Locknuts, etc.

(1) A SYSTEMATIC investigation of the causes of failure of aero engines and their accessories has brought to light several instances in which the primary cause was the stretching or fracture of studs due to initial overtightening of the nuts.

(2) The actual degree of tension applied to any given stud or bolt obviously cannot be determined by subsequent inspection. Adequate control, therefore, of this phase of erection can be exercised only by a general supervision of the type of tool used and the manner in which it is applied to each class of job.

(3) Ground engineers should accordingly take special care to ensure that the types of spanner used in the assembly of the various parts and components of aircraft, engines and their accessories are not likely in normal use to subject the threaded member to excessive loading and further, that the effectiveness of such spanners is not augmented by the use of additional pipes or hammering up. Particular attention is directed to the possible overtightening and/or maltreatment of locknuts on streamline wires and tie-rods, through the use of unsuitable tools.

(4) The normal length of spanner appropriate to the various sizes of studs or bolts can be ascertained by reference to B.E.S.A. Specification No. 192, 1924—British Standard Spanners.

The following is an abridged list compiled therefrom and is appended for guidance:—

Diameter of Bolt.	Length of Spanner for:	
	B. S. Whitworth.	B. S. Fine Thread.
1-in.	5-in.	3½-in.
1 1/8-in.	6 "	5 "
1 1/4-in.	8 "	6 "
1 3/8-in.	9 "	8 "
1 1/2-in.	10 "	9 "
1 3/4-in.	15 "	12 "

(No. 3 of 1927.)

PERSONALS

To be Married

THE engagement is announced between FLIGHT-LIEUT. C. D. ADAMS, R.A.F., second son of Mr. L. L. Adams and Mrs. Adams, of Penn Hall, Parkstone, Dorset, and MORIS MARY, elder daughter of Mr. EDWARD LE BRACQ, of Jersey.

The marriage arranged between Mr. FREDERICK JOHN HUNT, D.F.C., of Ellisfield, Basingstoke, elder son of Mr. and Mrs. F. W. Hunt, of Whitechurch, Hants, and Miss FRANCES ANN SELMER, of 31, Cannon Hill, N.W.6, elder daughter of the late Commodore and Mrs. A. J. Selmer, of Valparaiso, Chile, will take place on September 29.

The engagement is announced of FLIGHT-LIEUT. W. J. SEWARD, R.A.F., third son of Mr. and Mrs. T. B. Seward, of The Retreat, Wokingham, Berks, and Miss RACHEL NEALE SHUTTE, only daughter of Dr. and Mrs. Malcolm Shutte, of Newnham, Weybridge.

The engagement is announced between CAPT. C. K. SEYMOUR METFORD, late R.F.A. and R.A.F., elder son of Lt.-Col. F. K. Seymour Metford, O.B.E., D.L., J.P., and Mrs. Seymour Metford, of Fox Elms, Robinswood Hill, near Gloucester, and PHYLLIS, youngest daughter of Lord Provost WILLIAM HIGH, L.L., J.P., and the late Mrs. High, J.P., of Windsor Street, Dundee.

An engagement is announced between Mr. A. W. YOUNGHUSBAND, R.A.F., only son of Mr. and Mrs. Younghusband, of Moorsfort, Berrylands, Surbiton, and Miss MARJORIE CONSTANCE SHILLITO, younger daughter of the Rev. W. F. Shillito, of Astley House, Parklands, Surbiton.

Flying to Venice

THE Royal Aero Club has been advised by the Italian authorities that landing at the San Nicolo Aerodrome on the Lido will be prohibited from now until after the Schneider race. For those making the journey by air, the aerodrome for Venice is at Padua, 37 km. west of Venice, or Lat. 45° 24' N., Long. 11° 51' E.

A New Appointment

PETERS, LTD., of Yeovil, inform us that on September 1 they appointed Engineer Lieut.-Commander J. K. Gibbon, R.N., Waterloo Chambers, 19, Waterloo Street, Glasgow, C.2, as their representative in Scotland. The arrangement under which Major R. McPhail has acted as their representative terminated on August 31.

Sir Vincent Caillard Resigns

VICKERS, LTD., announce, with great regret, the resignation tendered by Sir Vincent Caillard as from September 1, who for 27 years has been a director, and who was mainly instrumental in arranging for the recent reconstruction of the Company (which is now practically completed).

Air Mail to Belgium

THE Postmaster-General announces that the afternoon letter Air Mail to Belgium, which was closed at the General Post Office, London, at 12.30 p.m., has been suspended for the winter. The despatch for Germany, closed at the same time, is, however, being maintained, and by connecting with air services from Cologne next morning will continue to offer advantage for letters to many places in Germany (Hamburg, Bremen, Frankfurt, Munich, Dresden, Breslau, etc.).

SIDEWIND

To the officers of the Royal Air Force! FLIGHT has been asked by Messrs. Burch's, Naval and R.A.F. tailors, to convey to the officers of the various squadrons a personal expression of their thanks for the generous support and kind recommendations they have accorded them in the past. FLIGHT has no hesitation in recommending them. They are old-established tailors with a wealth of tradition behind them and by their production in uniforms they have achieved an unrivalled reputation and we believe that any officers requiring an outfit would materially benefit by consulting them.

PUBLICATIONS RECEIVED

Les Bordes Travaillants en Construction Navale et Aéronautique. By M. L.-L. Kahn. Association Technique Maritime et Aéronautique, Session May-June, 1927. Imprimerie Chaix, Rue Bergère 20, Paris.

Ist ein Weltflugverkehr möglich? By Wilhelm Cramer H. M. Hauschild, Bremen. Price M. 1.25.

The Fourth Machine Tool and Engineering Exhibition, September 5 to 22, 1928, Olympia, London, W. Exhibitors' Guide. The Machine Tool Trades Association, 70, Victoria Street, London, S.W.1.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

APPLIED FOR IN 1926

Published September 15, 1927

- 12,481. AIRSHIP GUARANTEE CO., LTD. C. D. BURNEY and J. E. TEMPLE. Lighter-than-air aircraft and i.c. engines thereof. (276,054.)
12,594. A. C. W. ALDIS. Aerial observation instruments. (276,059.)
25,906. DORNIER-METALLBAUTEN GES. and C. DORNIER. Aircraft wings. (259,995.)

APPLIED FOR IN 1927

Published September 15, 1927

- 8,871. E. G. BENOIT. Aeroplanes and flying machines. (268,794.)

FLIGHT,

The Aircraft Engineer and Airships

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